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Revisiting EC Merger Control: Problems and Issues in the Application of the ECMR with particular Reference to Aluminium Markets

ILIAS KAPSIS

A thesis submitted to the University of Bristol in accordance with the requirements of PhD in the Faculty of Social Sciences and Law

Department of Law, July 2005

Abstract

This thesis deals with the analysis of certain issues and problems arising in the application of EC merger control. Its central objective is to analyse and assess the legal framework of EC merger control and its application by the Commission. The focus is on substantive issues and particularly on the market test of the ECMR and its application in certain difficult market situations resulting from mergers, such as collusive and non-collusive oligopolies. Vertical effects as well as situations of mergers giving rise to risks of both unilateral and coordinated effects are also examined. The analysis covers also issues of market definition and remedies. Although the focus is on substantive issues the thesis includes also references to basic procedural rules under the ECMR and judicial review, in order to give a complete picture of the system of EC merger control. The analysis takes into account the results of the recent reforms in EC merger control as well as the developments in other jurisdictions, particularly in the US.

In order to better explain complex competitive issues and the results of the recent reforms to the ECMR the thesis uses as tools three past Commission decisions under the ECMR and one US decision.

The final conclusion reached by the analysis is that more flexibility in the application of the framework by the Commission than currently exists is required in order EC merger control to be able to effectively deal with all anticompetitive scenarios arising from mergers.

The thesis takes into account the development in EC merger law by the 31st of December 2004.

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To my family and Father Luke
with love and gratitude

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Author's Declaration

I declare that the work in this thesis was carried out in accordance with the Regulations of the University of Bristol. The work is original except where indicated by special references in the text and no part of the thesis has been submitted for any other academic award. Any views expressed in the dissertation are those of the author, except where indicated otherwise.

Signed: Date: 28 - 7 - 2005

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Abbreviations

AAI	American Antitrust Institute
Am.Ec.Rev.	American Economic Review
Am.J.Int'l L.	American Journal of International Law
ANC	American National Can
Antitrust	*Antitrust*
Antitrust Bull.	The Antitrust Bulletin
Antitrust L. & Econ. Rev.	Antitrust Law and Economics Review
Antitrust L. J.	Antitrust Law Journal
Brookly L.Rev.	Brooklyn Law Review
B.U.L.Rev.	Boston University Law Review
Bull.L.Rev.	Buffalo Law Review
Bus.Law.	Business Lawyer
Bus.L.Rev.	Business Law Review
Case W.Res.L.Rev.	Case Western Reserve Law Review
CFI	Court of First Instance
CGA	Chemical-grade alumina
C.M.L.R.	Common Market Law Reports
C.M.L.Rev.	Common Market Law Review
Chi.J. Int'l L.	Chicago Journal of International Law
Colum. Bus.L.Rev.	Columbia Business Law Review
Colum. J. Eur. L.	Columbia Journal of European Law
Colum.L.Rev.	Columbia Law Review
Conn.L.Rev.	Connecticut Law Review
Cornell L.Rev.	Cornell Law Review

C.W.R.L.R.	Case Western Reserve Law Review
DOJ	*Department of Justice (United States)*
E.E.R.	European Economic Review
E.B.L.J.	European Business Law Journal
E.C.L.Rev.	European Competition Law Review
E.L.Rev.	European Law Review
Flo. J.Int'l Law	Florida Journal of International Law
Fordham Int'l L.J.	Fordham International Law Journal
FT	Financial Times
FTC	Federal Trade Commission
Geo.L.J.	Georgetown Law Journal
Geo. Mason L.Rev.	George Mason Law Review
Geo. Mason U.L.Rev.	George Mason University Law Review
G.W.L.R.	George Washington Law Review
Harv. I.L.J.	Harvard International Law Journal
Harv. L.Rev.	Harvard Law Review
I.C.C.L.R.	International Company and Commercial Law Review
ICPAC	International Competition Policy Advisory Committee
Ind. J. Global Legal Stud.	Indiana Journal of Global Legal Studies
Int'l J.Ind.Org.	International Journal of Industrial Organisation
Int'l Bus. Lawyer	International Business Lawyer
Int'l Rev. L. & Econ.	International Review of Law and Economics
Int'l Trade L.J.	International Trade Law Journal
Iowa L.Rev.	Iowa Law Review
J.Ind.Econ.	Journal of Industrial Economics

J.B.L.	Journal of Business Law
J.L.&Econ.	Journal of Law and Economics
J.L.Econ. & Org.	Journal of Law, Economics and Organisation
J.Pol.Econ.	Journal of Political Economy
J. Transnat'l L. & Pol'y	Journal of Transnational Law and Policy
Kan.J.L.& Pub.Pol.	The Kansas Journal of Law and Public Policy
L.A.Law.	Los Angeles Lawyer
Loy.Con.L.Reporter	Loyola Consumer Law Reporter
Mich L.Rev.	Michigan Law Review
Minn.J.Global Trade	Minnesota Journal of Global Trade
Minn. L. Rev.	Minnesota Law Review
Miss.C.L.Rev.	Mississippi College Law Review
mt	million tonnes
MT	*metric tonnes*
N.Eng.L.Rev.	New England Law Review
N.M.L.Rev.	New Mexico Law Review
N.Y.Int'l L.Rev.	New York International Law Review
N.Y.U.L.Rev.	New York University Law Review
Nw.U.L.Rev.	Northwestern University Law Review
PLI	Practicing Law Institute
Rev.Ind.Org.	Review of Industrial Organisation
SGA	Smelter-grade alumina
SLC	Substantial lessening of competition
SIEC	Substantial Impediment of Effective Competition

SR	*Second Request*
Stan.J.L.Bus.&Fin.	Stanford Journal of Law, Business and Finance
St.John's L.Rev.	Saint John' s Law Review
St.Luis L.Rev.	Saint Luis Law Review
Transnat'l Lawyer	Transnational Lawyer
Transp.L.J.	Transportation Law Journal
Tex.L.Rev.	Texas Law Review
U.Chi.L.Rev.	University of Chicago Law Review
U.Pa.L.Rev.	University of Pennsylvania Law Review
U.Pa.J. Int'l Econ. L.	University of Pennsylvania Journal of International Economic Law
UWLA L.Rev.	University of West Los Angeles Law Review
Stan. J.L. Bus. & Fin.	Stanford Journal of Law, Business and Finance
W.M.L.Rev.	William and Mary Law Review
W.R.L.Rev.	Western Reserve Law Review
Wi. Int'l L.J.	Wisconsin International Law Journal
Wi.L.R.	Wisconsin Law Review
Yale L.J.	Yale Law Journal

CHAPTER 1

Introduction

1.1 The concept of merger control in the EU

Merger control in the EU is a legal process established by Council Regulation 4064/89 ("the old Merger Regulation") for regulating major cross-border merger activity in the EU territory. The old Merger Regulation provided the European Commission with sole jurisdiction (the "one-stop-shop" principle) to deal with all "concentrations" falling within the scope of the Regulation[1], which included apart from mergers also acquisitions and other forms of concentrations[2]. For these concentrations the merging firms were obliged to notify the merger, prior to its implementation[3] to the Commission, which would examine the impact of the transaction on competition and would either clear, sometimes conditionally, or prohibit it[4].

The old Regulation covered concentrations "with a Community dimension"[5], namely concentrations with combined aggregate worldwide turnover of more than €5,000 million, or aggregate Community-wide turnover of each of the undertakings concerned of more than €250 million[6]. The establishment of turnover thresholds as the sole criteria of a "community dimension" made it possible to capture within the scope of the Regulation, apart from transactions between EC-based undertakings or those

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[1] According to Recital 26 of C.R.4064/89 the Commission had exclusive competence to apply this Regulation. This was subject to exception in referral cases under Article 9 whereby the Commission, after receiving a request by an interested Member State, could refer a notified concentration to the competent national authorities.

The substantive requirements for referral concerned the existence of a threat on a market within a Member State as a result of the concentration. The system of referrals was preserved in the New Merger Regulation with some changes (see also in the next chapter dealing with procedural issue of the Merger Regulation).

[2] According to Recital 26 of C.R.4064/89 the Commission "...should be given exclusive competence to apply this Regulation, subject to the review by the Court of Justice".

[3] Recital 17 of C.R.4064/89. According to this Recital during the review of the merger by the Commission the transaction was under suspension.

[4] Recitals 14-16 of C.R.4064/89.

[5] Recital 11 of C.R.4064/89.

[6] Article 1 of C.R.4064/89.

involving at least one EC-based undertaking, also transactions involving only undertakings located outside the Community[7].

The establishment of merger-control procedures was necessary to ensure that the process of corporate reorganisations in the form of large cross-border concentrations, which was taking place after the dismantling of internal frontiers within the Community, would not result in a lasting damage to competition[8]. Such reorganisations were generally beneficial for the European industry and economy but Community law had to deal also with certain concentrations that impeded effective competition in the common market or in a substantial part of it[9].

Thus, Regulation 4064/89 entered into force to exercise effective control in terms of competitive effects of all concentrations having Community dimension[10]. The creation of a new and specific legal instrument was deemed necessary because Articles 85 (now 81) and 86 (now 82), were not sufficient to effectively deal with all types of concentrations[11].

The Regulation 4064/89 was replaced as of 1 May 2004 by Council Regulation 139/2004 ("the new Merger Regulation", "new Regulation" or "ECMR"), which made important procedural and substantive changes in EC merger control without however altering its basic structure and scope[12].

The new Regulation considers as the basic cause of corporate reorganisations the completion of the internal market and the economic and monetary union, the enlargement of the European Union and the lowering of international barriers to trade

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[7] A number of concentrations involving only firms located outside the Community were reviewed by the Commission in this context [e.g. Case IV/M.37 *Matsushita/MCA* [1992] 4 CMLR M36; IV/M.877 *Boeing/McDonnell Douglas* [1997] OJ L336/16, [1997] 5 CMLR 270; COMP/M.2220 *GE/Honeywell*, (Decision of 3 July 2001)].

The idea behind reviewing transactions involving foreign firms is mainly based on the "effects doctrine" of public international law, which for transactions under the EC Merger Regulation was interpreted by the European Court in *Gencor v. Commission* as follows: "Application of the Regulation [in such cases] is justified under public international law when it is foreseeable that a proposed concentration will have an immediate and substantial effect in the Community".

However, the application of this rule by the Commission in transactions involving foreign firms has not always been received well by the political and competition authorities of the countries in which these firms were based, particularly the US. For a more detailed analysis and discussion on the extraterritorial application of the Merger Regulation see A.Jones and B.Sufrin *EC Competition Law*,(2nd Ed.), Oxford University Press, 2004, 1255-1265; D.G.Goyder *EC Competition Law*, (4th Ed.) 2003, 503-504.

This thesis contains extensive analysis of one such case, *Alcoa/Reynolds*, a merger involving two US companies. However, the focus of the thesis's analysis is not on issues of the extraterritorial application of the EC Merger Regulation, but on substantive issues related to the competitive assessment.

[8] Recitals 3 and 5 of C.R.4064/89.

[9] Recitals 4 and 5 of C.R.4064/89

[10] Recital 7 of C.R.4064/89.

[11] Recital 6 of C.R.4064/89.

[12] The issue is discussed in more details in chapters 2 and 3 of the thesis.

and investments[13]. Moreover, the new Regulation, as before, covers the same concentrations in terms of type and magnitude[14], while similar to the past it seeks the prohibition of mergers that may "significantly impede effective competition in the common market" even if the latter term has acquired a broader content[15].

The maintenance of effective competition however is not an end in itself. Policy-makers in the EU have on several occasions made clear that by maintaining effective competition they seek to protect consumer welfare, which is the ultimate goal of EC merger control[16]. Consumer welfare generally stands for benefits to consumers[17], such as low prices, high-quality products, a wide selection of goods and services and innovation[18]. Effective competition, compared with monopoly, benefits consumers because it offers lower prices, better products, wider choice and more new products[19]. Thus, merger control seeks to ensure that mergers will not impede effective competition within the Community and thus consumers will not be deprived of the above benefits.

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[13] Recital 3 of C.R.139/2004.

[14] Recital 10 and Articles 1 and 3 of C.R.139/2004 dealing with the concept of concentrations and the aggregate turnover thresholds for concentrations falling within the scope of the Regulation do not differ from the respective Recital 11 and Articles 1 and 3 of C.R.4064/89.

[15] Compare Recitals 24 and 25 of C.R.139/2004 with Recital 14 of C.R.4064/89. The basic difference between the two Regulations lies on the applicable market test for establishing significant impediment to effective competition in the common market. Under C.R.4064/89 the establishment or strengthening of a dominant position as a result of the concentration was the sole source of competitive harm. Under C.R.139/2004 cases beyond market dominance could also suffice for establishing competitive harm. This issue is central in the thesis and is explained and discussed in detail in several of its chapters.

[16] According to the European Commissioner for Competition Mario Monti, "...preserving competition is...not an end in itself. The ultimate policy goal is the protection of consumer welfare" (see Mario Monti, *Europe' s Merger Monitor* The Economist, 9 November 2002). See also Mario Monti "The Future for Competition Policy in the European Union" Speech at Merchant Taylor' s Hall, 9 July 2001 ("[T]he goal of competition policy, in all its aspects is to protect consumer welfare by maintaining a high degree of competition in the common market..."). Reference to the consumer welfare could be also inferred from Recital 4 of the Preamble of Merger Regulation: "[The corporate reorganisations] should be welcomed as...capable...of improving the conditions of growth and raising the standard of living in the Community".

[17] The term "consumer welfare" is an economic concept, which is part of what is known as welfare economics concerned with the efficiency of the firm, the market and/or the economy. Consumer welfare (or consumer surplus) is usually compared by economists with producer welfare (or producer surplus), which refers to benefits to producers, and with total welfare, which stands for the sum of consumer and producer benefits (For a formal presentation of these economic concepts, see Massimo Motta, *Competition Policy,* Cambridge University Press, 2004, 39-100).

These concepts are particularly important for competition policy because any intervention by competition authorities in that area depends on the adopted welfare standard. In EC merger control the adoption of the consumer-welfare standard requires that any efficiencies produced by the merger be at least partly passed to consumers through lower prices. Otherwise, if the merger results in higher prices, it will be prohibited notwithstanding the potential increase in profits for the merging firms as a result of the merger.

The selection of an appropriate welfare standard for merger control purposes is discussed in detail in the analysis of merger-related efficiencies later into the thesis.

[18] See para.8 of the Commission Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings OJ [2004] C31/03.

[19] *Ibid.*

For identifying anticompetitive mergers the ECMR contains a market test applying to all mergers falling within its scope. Regulation 4064/89 established the "dominance test" according to which:

"...a concentration which creates or strengthens a dominant position as a result of which effective competition in the common market or in a substantial part of it would be significantly impeded shall be declared incompatible with the common market"[20].

This test was replaced in Regulation 139/2004 by another test:

"a concentration which would significantly impede effective competition in the common market or in a substantial part of it, in particular as a result of the creation or strengthening of a dominant position, shall be declared incompatible with the common market"[21]

The new "substantial-impediment-of-effective-competition" (SIEC) test has broader scope by capturing certain mergers in oligopolistic markets, which result in unilateral anticompetitive effects and which apparently were not covered by the old test[22].

The application of the market test involves complex analysis of an economic nature based on market evidence. The process starts with the definition of a relevant product and geographic market (or markets) where the merger is most likely to raise competitive concerns. Then, the Commission, which enjoys broad discretion in the assessment of market evidence[23], examines the impact of the merger on competition in that market (or markets). It does so by comparing the competitive conditions that would result from the merger with the conditions that would have prevailed without the merger[24]. In this assessment economic theories of competitive harm, such as the dominant-firm model and the oligopoly model, are used. However, unlike cases under Articles 81 and 82 where the assessment is based on evidence about past or current market conditions and firm behaviour, the assessment of mergers is inherently a question of prediction. In particular, the Commission using all the available information is required to predict the future market developments by prohibiting those mergers that are likely to impede competition in the market. However, even the latter

[20] Recital 14 of C.R.4064/89.
[21] Article 2(2) of C.R.139/2004.
[22] See Recital 25 of C.R.139/2004. However, the European Commission does not consider that there is an expansion in the scope of the substantive test in the New Merger Regulation but attributes the different wording used in the new test to the scope of clarification rather than of the addition of powers (see European Commission "New Merger Regulation Frequently Asked Questions" Press Release of 20 January 2004). The issue is discussed in details in other chapters of the thesis where analysis of substantive issues with respect to the ECMR is made.
[23] See *infra*. According to Recital 33 of the ECMR the Commission has the task of taking all decisions necessary to establish whether or not concentrations with a Community dimension are compatible with the common market as well as decisions designed to restore the situation prevailing prior to the implementation of a concentration which has been declared incompatible with the common market.
[24] See para. 9 of the Guidelines on the assessment of horizontal mergers.

mergers may be finally cleared if the parties during the negotiations with the Commission offer commitments sufficient to address the competitive problem.

Available statistics show that EC merger control is not an anti-mergers regime, since the large majority of mergers examined under this process have been cleared unconditionally[25]. This view is further reinforced by the fact that in the ECMR there is no presumption that a merger is incompatible with the common market, whatever levels of market shares result, or whatever the size of the undertakings concerned. The test of compatibility is based firmly on competition criteria and this definitely favours permitting mergers, which are considered by economic theory as generally beneficial to competition and the economy[26].

1.2 Problems in the application of merger control

The Commission enjoys broad discretion in the competitive assessment of mergers and is entitled to make all necessary decisions to ensure that the mergers will not harm competition in the Community[27]. For more effectively achieving this objective, the Commission is granted by the ECMR broad investigative powers concerning the collection of information and other evidence relevant with the appraisal of the concentrations[28].

This appraisal of concentrations according to Article 2 of the ECMR takes into account the following factors:

"a. the need to maintain and develop effective competition within the common market in view of, among other things, the structure of all the markets concerned and the actual or potential competition from undertakings located either within or outwith the Community;
b. the market position of the undertakings concerned and their economic and financial power, the alternatives available to suppliers and users, their access to supplies or markets, any legal or other barriers to entry, supply and demand trends for the relevant goods and services, the interests of the intermediate and ultimate consumers, and the development of technical and economic progress provided that it is to the consumers' advantage and does not form an obstacle to competition".

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[25] According to the Commission's statistics for the period 1990-2003, the notified cases under the ECMR were 2399 of which only 18 were prohibited, while 169 were cleared with commitments either on the first or on the second stage of the examination. Also 81 notifications were withdrawn.

[26] Mergers generally create more efficient firms by means amongst others of lower production costs, broader product lines, innovative products and more efficient management of resources. They are also broadly used by firms seeking to expand in new product and geographic markets, while they can offer solutions to failing firms. Failing firms by selling their businesses may escape an otherwise inevitable liquidation, which would have apart from losses for their owners and shareholders also adverse social effects such as permanent job losses. These issues will be examined in more detail in the discussion on merger-related efficiencies later into the thesis.

[27] Recital 33 of C.R.139/2004. The Commission's powers are discussed in details in chapter 2 of the thesis.

[28] Recitals 38 and 39 of C.R.139/2004. According to Article 11 of C.R.139/2004, the Commission has the power to request from undertaking, associations of undertaking and/or persons to provide information about the merger. According to Article 13, the Commission may also conduct inspections of undertakings and interviews with persons. The Commission may also request information from Member States, while according to Article 14 may impose fines or periodic penalty payments on persons and undertaking failing to cooperate.

A merger by eliminating a competitor reduces competition in the market and the Commission's task is to examine whether the competitor loss is compensated by the development of more aggressive competition between the firms remaining in the market post-merger or whether the merger results in a situation where the merging parties acting either unilaterally or in coordination with the remaining competitors are capable of increasing prices or reducing output. In any case, the Commission seeks to safeguard that the level of competition in the market post-merger will remain sufficient to ensure consumer welfare.

The appraisal of mergers is complex and difficult and therefore the Commission has issued a number of Notices which provide guidance on the issue. The most important are the Notice on market definition[29], the Guidelines on the assessment of horizontal mergers[30] and the Notice on remedies[31]. All these Notices seek to clarify issues about fundamental areas of merger control, such as market definition, the application of the market test, and the remedies, which refer to means for restoring effective competition in anticompetitive mergers.

However, the application of merger control by the Commission has in several cases caused criticism covering a wide range of issues. The Commission has been criticised for sometimes defining insufficiently narrow markets, making wrong and inconsistent competitive assessments and/or adopting problematic decisions concerning remedies.

a. Problems in the Commission's market definitions

Market definition seeks to identify in a systematic way the competitive constraints faced by the undertakings concerned[32] and in merger control is a necessary step in the assessment of the market power of the merging firms. In practice the task of market definition using available market evidence results in the identification of a relevant market (or markets) in which the merging firms' market power will be assessed[33]. After the relevant market has been defined, the market test of the Merger

[29] OJ [1997] C372/5, [1998] 4 CMLR 177.
[30] OJ [2004] C31/03.
[31] OJ [2001] C68/3.
[32] Paragraph 2 of the Notice on the relevant market.
[33] The criteria and methodologies used in market definitions for merger control purposes are examined in chapter 3 of the thesis and in more details in the chapters dealing with the analysis of the cases of aluminium industry, which

Regulation will be applied in that market in order to help the Commission to determine whether the merger will result in harm to competition or not. Competitive harm had for many years, as explained above, been synonymous to the establishment or strengthening of a dominance position, but now under the new market test the focus is on mergers resulting in "substantial impediment to effective competition", a concept in which however dominance remains central element. The criticism often raised against the Commission's practice is that market definition is sometimes used to facilitate the adoption of an already predetermined decision on the approval or rejection of the merger, which is not always based on market criteria.

In particular, given that market shares play a central role for establishing dominance, some commentators have argued that the Commission often seeks the definition of narrow relevant markets, which produce high market shares that are indicative of the parties' dominant position[34]. However, such an approach by the Commission would result in overestimation of the merging firms' market power and thus in the prohibition of pro-competitive mergers.

In addition, the Commission has often been criticised for using outdated[35] and sometimes arbitrary[36] methodologies in the market definition and for making only limited use of tools provided by economic theory[37], which are generally considered as providing more concrete evidence for defining markets[38].

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as will be explained below are used in the thesis as tools for studying the practical application of EC merger control.

[34] Camesasca and Van Den Bergh cite allegations that for a long time the outcome of the market definition exercise in EC competition law had been predetermined by a desire of European regulators to prohibit (or, alternatively, allow) business behaviour rated as potentially distortive (or supportive) of the competitive process (see Peter D. Camesasca and Roger J. Van Den Bergh "Achilles Uncovered: revisiting the European Commission's 1997 Market definition Notice" *Antitrust Bull.* 2002, 143, 144). See also D.G. Goyder *op.cit.*7, 354. ("Often it is the parties who are seeking for a broader market definition in which the combined market shares will be lower, while the MTF seeks a narrower market in order that market shares can be established which are substantial").

[35] Tools such as functional interchangeability, product characteristics, price levels and third-party views have been broadly used by the Commission for defining the relevant product market (see Simon Baker and Lawrence Wu "Applying the Market Definition Guidelines of the European Commission" *E.C.L.Rev.* 1998, 273, 280). These tools though are not considered as very reliable because they do not provide quantitative evidence about substitution between products. In the recent years, particularly after the publication of its Notice on the relevant market, which imported the use of vigorous economic tools such as the SSNIP test, the Commission makes rarer use of these factors.

[36] For instance, Simon Baker refers to some "rules of thumb", which the Commission applies in market definition. These "rules" have the ability to provide quick, predictable and generally accurate indicators of the appropriate market definition to adopt. However, the blind application of these rules could lead to arbitrary market definitions, which are not consistent with the scope of the assessment of market power. Baker refers to the "merchant market rule" applied by the Commission according to which all the sales made by suppliers to customers to whom they are linked by full or partial ownership ("captive sales") are excluded from the relevant product market which includes only those sales made to independent third parties ("merchant market sales") (see Simon Baker "The Treatment of Captive Sales in Market Definition: Rules or Reason" 24 *E.C.L.Rev.* 2003, 161). This issue is examined in details later in the thesis.

[37] Such a situation occurs particularly in geographic market definition, where according to available statistics the Commission often relies on very simple and "crude" evidence, such as trade flows and comparisons of price levels

The above criticisms are indirectly fuelled also by the inherent difficulties surrounding the task of defining markets and which increase the risk of failures in that area for any competition authority. In particular, a relevant market for merger control purposes is an artificial construct whose definition is based largely on quantitative criteria proposed by economic theories and which seeks only to identify the merging firms' market power. In this sense a relevant "antitrust" market is different to an economic market, which refers to the traditional concept of market. Given that the economic theory has not thus far drawn the fine line between pro-competitive and anticompetitive market power and that there is no consensus between economists and competition scholars about the best applicable methodology of defining antitrust markets, it is inevitable that the Commission's market definitions under the ECMR often attract criticism focusing on the applied criteria and methodologies whatever they are[39].

b. Problems in the competitive assessments

The criticism of the Commission's practice concerning competitive assessments refers amongst others to erroneous analyses of oligopolistic markets, use of outdated economic theories, refusal to consider efficiencies, erroneous analyses of market evidence, and use of non-economic considerations in the assessment of mergers.

In five cases, in particular, the Commission's failures were confirmed by the European Court:

In *French Republic v. Commission (Kali&Salz)*[40], the first judgment delivered by the Court of Justice under Regulation 4064/89, the Court annulled a Commission decision that the acquisition of the former East German potash producer MdK by *Kali&Salz* would create or strengthen a position of collective dominance. The Court held that the Commission's factual analysis and assessment were flawed and thus, the

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and makes only rare use of the more reliable economic methodologies (see European Commission, DG Enterprise "The Internal Market and the Relevant Geographic Market" Final Report, February 3, 2003, 47-48).

[38] The concept of the "relevant market" is an economic one and therefore in many cases, particularly when differentiated products are involved, the use of highly sophisticated economic and econometric analysis is necessary for proper definition (see Richard Whish, *Competition Law*, (5th Ed), London: Butterworths, 2003, at p. 24). As a result, when the market definition relies on market evidence such as the trade flows or the comparisons of price levels mentioned above, which are not based on rigorous economic methodologies, then the risk of error is higher.

[39] These issues are addressed in detail in chapter three where the Commission's practice when defining markets is examined and also in chapters 4-7 where the approach by other jurisdictions, particularly the US, as well as by economic theory are examined.

[40] Joint Cases C-68/94 and 30/95 [1998] ECR I-1375.

Commission had failed to convincingly prove the establishment or strengthening of collective dominance from the merger[41].

Similarly, in *Airtours v. Commission*[42], the Court of First Instance (CFI) annulled the Commission's prohibition of the *Airtours/First Choice*[43] merger. The Commission had considered that the merger would result in a situation of tacit collusion by the merging firms and two other competitors in the UK market for short-haul foreign package holidays. The CFI found that the Commission's decision was "vitiated by a series of errors of assessment as to factors fundamental to any assessment of whether a collective dominant position might be created"[44].

In *Schneider Electric v. Commission*[45] the CFI annulled the Commission's decisions in *Schneider/Legrand*[46] which had prohibited the merger of two French suppliers of low-voltage electricity distribution equipment, and ordered Schneider to divest Legrand. The CFI annulled the decisions on both procedural and substantive grounds. Regarding substantive grounds, the Court was highly critical of the Commission's economic analysis that led to the establishment of a dominant position by the merged entity in all markets outside France.

In *Tetra Laval BV v. Commission*[47] the CFI annulled the Commission's decisions in *Tetra Laval/Sidel*[48] which had prohibited the merger of two producers of packaging materials and ordered the separation of the two companies. The Court held that the Commission failed to demonstrate that the transaction would create or strengthen a dominant position on any relevant market. As in the *Airtours* and *Schneider* judgments, the Court carried out a long and detailed factual analysis, ultimately finding that the Commission's decisions were based on insufficient evidence and some errors of assessment.

Lastly, in *Babyliss SA v. Commission*[49] the CFI partly annulled the Commission's decision to authorise the *SEB/Moulinex*[50] merger decision with regard to the markets

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[41] *Ibid.* para.49.
[42] Case T-342/99, *Airtours Plc v. Commission* [2002] ECR II-2585, [2002] 5 CMLR 317.
[43] Case IV/M.1524 *Airtours/First Choice* OJ [2000] L93/1, [2000] 5 CMLR 494.
[44] *Op.cit.* 43, at para. 294.
[45] Case T-310/01 *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 768 (annulment of prohibition decision); Case T-77/02 *Schneider Electric v. Commission* [2002] ECR II-4201 (annulment of divestiture decision).
[46] Case COMP/M.2283 *Schneider/Legrand* (Decision of 10 October 2001)
[47] Case T-5/02 *Tetra Laval v. Commission* [2002] ECR II-4381, [2002] 5 CMLR 1182 (annullment of prohibition decision); Case T-80/02 *Tetra Laval v. Commission* [2002] ECR II-4519, [2002] 4 CMLR 1271 (annulment of divestiture decision).
[48] Case COMP/M.2416 *Tetra Laval/Sidel* (Decision of 30 October 2001).
[49] Case T-114/02 *Babyliss SA v. Commission* [2003] ECR II-1279; [2004] 5 CMLR 1
[50] Case IV/M.2621, *SEB/Moulinex* (Decision of 8/1/2002)

of Italy, Spain, Finland, the United Kingdom and Ireland. The Court considered that the Commission had not established "...to the requisite legal standard the correctness of its theory of the range effect, which it [had] used to justify the absence of serious doubts in [these] countries..."[51]

Apart from these cases in which the European Court was involved, there are several other Commission decisions, which attracted criticism, *GE/Honeywell*[52] and *Boeing/McDonnell-Douglas*[53] to name two high-profile ones. In *GE/Honeywell* the Commission's analysis of "bundling", which finally led to the abandonment of GE/Honeywell merger, was considered by some commentators, particularly in US, as based on outdated theories[54]. The Commission was also criticised for caring too much about the protection of competitors than about the protection of competition[55] and for giving little attention to the efficiencies that would have been created by the merger[56]. In *Boeing/McDonnell-Douglas,* a merger, which went to the brink of prohibition, the Commission's analysis was also criticised by US commentators[57] as being wrong and politically motivated by seeking to protect the interests of the European aircraft-construction consortium Airbus against the US-based rival Boeing.

The stage of the competitive assessment, as with market definition, also entails itself objective difficulties. In particular, the factors taken into account in the competitive assessment include amongst others, the level of market shares of the merging parties and their competitors, the number of competitors, the existence of barriers to entry in the market, the level of market transparency, the level of market growth and the level of capacity utilisation of the firms. These and many other factors related to the specific markets, as will be explained in detail later in the thesis, are examined by the Commission, but the significance of each of these factors is not and can not be determined *ex ante,* since it depends on the specific market conditions. Moreover economic theory on which the assessment of market factors is based has not thus far provided in all cases clear answers but only indications about which of these

[51] *Op.cit.*49, paras.363-365.
[52] Case COMP/M.2220 *GE/Honeywell* (Decision of 3 July 2001).
[53] Case IV/M.877 *Boeing/McDonnell-Douglas* [1997] OJ L336/16 5 CMLR 270.
[54] See e.g. William Kolasky, then Deputy Assistant Attorney General, US Department of Justice, Antitrust Division "Conglomerate Mergers and Range Effects: It' s a Long Way from Chicago to Brussels" Speech before George Mason University Symposium, Nov 9, 2001.
[55] See e.g. Eleanor Fox "We Protect Competition, You Protect Competitors" 26 *World Competition* 2003, 149.
[56] On the issue see also A.J. Padilla "The 'Efficiency Offence Doctrine' in European Merger Control", in *Antitrust Insights,* NERA Economic Consulting, July/August 2002.
[57] See e.g. Thomas Boeder and Gary J. Dorman "The Boeing/McDonnell Douglas Merger: the Economics, Antitrust Law and Politics of the Aerospace Industry" SPG *Antitrust Bull.* 2000, 119.

factors are indicative of market power. As a result, it is reasonable that many Commission's decisions particularly in important cases attract the criticism of those parties (merging firms or competitors) who are not satisfied with these decisions[58].

c. Problems in the decisions on remedies

According to the Commission's statistics, between 1990 and 2003 at least 169 mergers were cleared conditionally, namely after the parties submitted commitments to address the Commission's competitive concerns. Also, for certain of the prohibited mergers under the ECMR the prohibition occurred because the merging parties and the Commission were unable to agree on appropriate remedies[59] to the competitive problems[60].

These statistics reveal the increasing importance of remedies in merger control. Merger remedies are measures taken to restore effective competition in markets threatened by anticompetitive mergers. However, a valid decision on remedies, that is a decision sufficient to restore effective competition, is largely dependent upon a valid identification in the competitive assessment of the competitive problems from the merger. Procedural issues play also an important role concerning remedies, since in the context of merger control there are strict deadlines for the submission and the examination of the parties' commitments. Under C.R.4064/89 the deadlines were considered by critics as excessively strict, which prevented the proper submission and examination of commitments[61]. C.R.139/2004 relaxed these deadlines, thus offering more flexibility, but the new deadlines will still not enable firms to feel absolutely comfortable[62].

However, the strict deadlines, is not the only issue of concern. The Commission has occasionally been criticised[63] for lack of transparency in its decisions, the

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[58] The issues raised in this paragraph are central into the thesis and will be adequately analysed and discussed in many of its chapters.

[59] The terms "remedies", "commitments" and "undertakings" are used in this thesis interchangeably.

[60] Examples of cases, which were withdrawn for this reason, include *Volvo/Scania* (Case COMP/M.1672 [2001] OJ L143/74), *GE/Honeywell*, *Schneider/Legrand* and *INA/AIG/SNFA* (Case IV/M.3093).

[61] The issue is examined in details in the next chapter of the thesis.

[62] *Ibid.*

[63] See e.g. Antoine Winckler "Some Comments on Procedure and Remedies under EC Merger Control Rules; Something Rotten in the Kingdom of the EC Merger Control?" 26 *World Competition*, 2003, 219, at p. 219.

imposition of disproportionate remedies, and the lack of due process and judicial review.

1.3 The Commission's response

Generally speaking the criticism of the Commission in respect of the application of the ECMR concerns both substantive and procedural issues. In terms of substance, the Commission is asked to improve its performance in merger analysis by making more use of modern economic tools. In terms of procedure the Commission is asked to adopt more flexible procedural rules and more transparent and consistent application of these rules.

The Commission's recent responses to the criticism had three directions:

a. Legislative changes through the adoption of a new Merger Regulation, which comprises more flexible procedural rules and a new substantive test. These developments do not establish a new merger policy but mostly seek to solve existing problems and to clarify certain ambiguous issues.

b. Changes in the Commission's internal structure, such as the creation in 2003 of a post of Chief Competition Economist in the Directorate-General for Competition and the abolishment of Merger Task Force

c. Issue of the Commission's Guidelines on the assessment of horizontal mergers, seeking to clarify the Commission's policies[64].

Furthermore, the adoption by the CFI of a new fast-track procedure will enable the Court to get more involved in merger review process[65].

Although these changes will improve the effectiveness of EC merger control, it is nevertheless certain that many of the current difficulties in the analysis of mergers will remain. The basic reason, as explained above, is that in certain areas such as market definition neither economic theory nor competition authorities have thus far found satisfactory solutions. Thus, even under the new Merger Regulation problems will still arise.

If one adds to the above, the fact that the analysis of mergers requires the examination of each case separately, taking into account the specific market

[64] The issue of guidelines on the assessment of vertical and conglomerate mergers is also expected for the near future.

[65] These new procedural rules along with the Court's general role in EC merger control are discussed in detail in the next chapter.

conditions of the time of the merger for which references to previous decisions are of little importance, it is easily understandable that merger control will always be a difficult task.

However, without examining its practical application, it is difficult to assess the utility of the legal framework and therefore this thesis, whose main purpose is to assess the merger control regime of the EU, focuses on issues of practical application.

1.4 The scope of the thesis

This thesis is about certain issues arising in the application of EC merger control and uses selective Commission decisions in aluminium industry mergers as tools for studying these issues.

The proposition which will be tested in the analysis, is that the application of merger control is a dynamic process, which to be effective requires a) a flexible but crystal-clear, in terms of scope and proceedings, legal framework that enables competition authorities to effectively deal with all the competitive issues arising from mergers in the complex global economic environment; and b) a flexible application of the framework in a manner that allows for maximum protection of the interests of the consumers in the Community without harming corporate reorganisation.

The decision to focus on certain issues was taken exactly as a means to test the flexibility and the effectiveness of European competition authorities. Difficult issues, such as oligopolies and market definition in differentiated products, are particularly useful in this respect because their analysis and assessment are potentially more effective without the use of inflexible analytical methods (e.g. "checklist" approach to oligopolies), which are static, but with the use of more flexible ones (e.g. the search for "maverick" firms), which take into account dynamic developments in the market. The latter methods are arguably more effective because they search deeper in the market to disclose the forces determining the development of competition, unlike static methods, which merely record existing market trends.

The details of how the author of the thesis apprehends the concepts of "dynamic merger control" and "flexibility in the framework and its application" will be explained in detail in the course of the analysis of the framework and its application throughout the chapters of the thesis and will also be discussed in the conclusions.

The final aim of this discussion is to contribute to the never-ending dialogue for the improvement of the effectiveness of merger control in the EU.

The thesis has therefore several aims, which however, are all subordinate to one basic and ultimate aim. The subordinate aims are the following:

a. to present a number of difficult issues, which, when arising, may lead to controversial merger decisions that put into doubt whether merger control is exercised properly. Issues, such as the oligopoly problem, market definition in differentiated products, and remedies are examined in this context;

b. to analyse and assess the Commission's approaches to those issues. This helps to assess the Commission's general performance in the context of merger control. Certain Commission decisions in selected mergers of aluminium industry are used to serve this purpose;

c. to examine how alternative economic theories and methodologies can help to deal with those issues. In this context, the selected mergers, in addition to the assessment of the Commission's policies, are also used as tools for discussing the practical application of alternative theories and methodologies, which could potentially help to improve the effectiveness of the current system of merger control in the EU;

d. to assess through analysis of its practical application the legal framework of merger control in the EU, in terms of coverage of all the competitive issues, flexibility and effectiveness. Extensive comparisons with the respective US framework and its practical application take place in this context as a means to more effectively assess the EU framework;

e. to analyse and assess the recent developments in EC merger control with the introduction of the "substantial-impediment-of-effective-competition" (SIEC) test, which replaced the dominance test, and the new procedural rules. Does the new framework improve the effectiveness of EC merger control? In this context, the selected Commission's decisions, in which the old framework was applied, are used as tools for discussing the changes in EC merger control that the new framework brings with it. The new framework does not constitute a radical departure from the old framework but imports certain improvements into the latter and therefore the selected cases are particularly useful for discussing the areas where the new rules imposed changes and the impact of these changes on the effectiveness of EC merger control. Moreover, in order to meet this objective the thesis selected merger decisions that gave rise exactly to issues that were targeted also by the recent reforms to the Merger

Regulation. Lastly, the relevant discussion includes also comparisons between the EC tests (old and new) and the US "substantial-lessening-of-competition" (SLC) test, whose adoption instead of SIEC had been examined during the negotiations between Member States and the Commission about the new Merger Regulation.

All these five aims are subordinate to the basic and ultimate aim, which is twofold:

a. to assess whether merger control in the EU achieves its main goal to protect effective competition and consumers in the territory of the Community; and,

b. to put forward proposals for the improvement of the framework of merger control and the Commission's practice to the direction of the more effective protection of effective competition and consumers.

1.5 The methodology of the thesis

To attain its aims this thesis involves legal, economic and market research. The legal research covers the framework of substantive merger control in the EU, the approaches of the European Commission and the Courts on the examined competitive issues, and the equivalent frameworks and policies in other jurisdictions, particularly in the US. The economic research covers the economic theories underpinning the legal approaches to the competitive effects of mergers and also other economic theories offering alternative solutions. The market research concerns competition in certain markets of the aluminium industry, which are used as tools for studying the application of EC merger control.

The analysis of the competitive issues, which involves extensive references to economic theories and market data, takes place from the perspective of a competition lawyer –not an economist- whose role is not to apply economic theories but to use the results of their application to put forward legal arguments favouring or opposing a merger. The assessments of economic theories made in the thesis are, therefore, based on the utility of those theories for the above-mentioned purpose, while their assessment from an economics perspective is left to the economists. However, even limited, assessments of the examined economic theories based on the views of economists also take place, as a means to reinforce the credibility of the legal arguments, which use these theories.

The step-by-step methodology for attaining the thesis's aims is as follows:

First, the merger cases to be used as tools for studying the practical application of the EC merger control are selected. This methodological approach, to focus on specific mergers, is deemed more appropriate for studying the practical application of merger control and for better understanding the analysis of complex competitive issues. Moreover, this method is particularly useful for effectively clarifying the argument advanced by this thesis about flexible and dynamic merger control, which refers exactly to issues of practical application.

Second, the selected cases give rise to issues of competition that are useful for checking the flexibility and effectiveness of EC merger control. Issues such as the collective dominance doctrine of the EU are amongst those to be examined. The selected cases are past but recent Commission's decisions under C.R.4064/89 and concern the aluminium industry. The fact that these cases refer to the old framework does not reduce the significance of the analysis, since all the examined issues are of general interest, which are not connected to any framework (e.g. economics of tacit collusion or of non-collusive oligopolies). Moreover, many of these issues belong to difficult areas of merger control, such as the oligopoly problem, which due to their nature will remain in the centre of interest even under the new legal framework of C.R.139/2004.

Third, the aluminium industry is selected because the competitive conditions in certain of its markets allow for the discussion of the specific issues targeted by the thesis. Moreover, aluminium is a mature industry, very important for the development of the global economy and with a long history. Due to these features the industry demonstrates a satisfactory level of transparency concerning firms and competition in its markets and this helps in the collection of information that is necessary for analysing and assessing the application of EC merger control in the industry.

Fourth, the selected mergers are those of *Alcoa/Reynolds*[66], *Rexam/ANC*[67] and *Schmalbach-Lubeca/Rexam*[68], and the specific markets to be analysed on the basis of

[66] Case COMP/M.1693, OJ L58 [2002] 5 CMLR 475.
[67] Case IV/M.1939, Decision of 19 July 2000.
[68] Case IV/M.2542, Decision of 28 Sept. 2001.

utility for the thesis's objectives are those of smelter-grade alumina *(Alcoa/Reynolds Metals),* beverage cans (*Rexam/ANC* and *Schmalbach-Lubeca/Rexam*), and primary aluminium (*Alcoa/Reynolds*).

Fifth, smelter-grade alumina is selected for the additional reason that it was examined also by the US competition authorities in the context of *Alcoa/Reynolds* review. Moreover, the US authorities applied both the unilateral and multilateral effects doctrine of the US merger guidelines and this is an additional advantage to the discussion. The market of primary aluminium is included in the thesis, even though it was not examined by the EU and US competition authorities in *Alcoa/Reynolds* review. The reason of its inclusion is because it helps in the discussion of vertical aspects of mergers and newer theories of competitive harm.

Sixth, a market research is carried out by the author of the thesis to disclose sensitive firm data, which as business secrets were not included in the published decisions for the selected markets[69]. The disclosure is necessary for the discussion of the competitive issues and the assessment of the Commission's decisions. The market research focuses on the competitive conditions in the markets at the time of the Commission's review of the cases and does not take into account later market developments. This is so because the thesis's research seeks to assess the Commission's handling of the available market evidence at the time of the review of the cases, which will help to assess the Commission's application of the ECMR. The market research seeks also to collect additional information, which could help to assess the Commission's analysis as well as to discuss the application of alternative economic or competitive theories. The sources of information include, apart from the firms involved in the mergers, institutions, organisations and journals specialising in the aluminium industry or having involvement in the examined mergers, such as the London Metal Exchange, the Financial Times, the International Aluminium Institute, the American Antitrust Institute, the American Metal Market, and the US Security and Exchange Commission.

Seventh, the analysis of the cases involves analysis and assessment -on the basis of effective competition and consumer protection- of the Commission's approaches on the competitive issues, discussion on alternative approaches to the market evidence

[69] According to Recital 42 of C.R.139/2004, all the Commission's decisions under the Regulation, which are not of a merely procedural nature, should be widely publicised. However, information covering business secrets of the firms are sealed from publication in order to protect the interests of these firms.

based on the use of other economic and competitive theories, comparisons with other jurisdictions, and proposals. Analysis and assessment of the legal frameworks (old and new) of merger control in the EU and comparisons with the US framework also take place.

Eighth, the thesis culminates with the conclusions on the analysis and the proposals for the improvement of the legal framework to the direction of more effectively protecting competition and consumers in the EU.

1.6 Structure of the thesis

The thesis is structured as follows:

Chapter 2 deals with procedural issues of merger control and judicial review. Although the focus of the thesis is on substantive issues, the reference to procedure and judicial review was deemed necessary because these issues are closely related to the competitive assessment.

Further, Chapter 3 deals with the presentation of the basic Commission's practice concerning competitive assessments. In particular the focus is on market definition, analysis of competitive effects and remedies. Chapter 3 also briefly presents aluminium industry and the mergers, which will be used by the thesis as tools.

Chapter 4 deals with the analysis of SGA market in the Commission's decision in *Alcoa/Reynolds* where a number of competitive issues are examined. In particular, the focus is, amongst others, on the market definition, which involved the treatment of captive production; the Commission's analysis of single dominance; risks of broad collusion; and remedies for curing single dominance and collusion.

Chapter 5 deals with the analysis of the US decision about SGA market in *Alcoa/Reynolds*. This chapter includes analysis of the practical application of the US merger control regarding unilateral and coordinated effects and extensive comparisons between the US and EU market tests and practices.

Chapter 6 deals with the analysis of the market of primary aluminium in *Alcoa/Reynolds*. The main focus at this chapter is on vertical aspects of mergers.

Chapter 7 comprises analysis of beverage cans market, which was examined by the Commission in *Rexam/ANC* and *Schmalbach-Lubeca/Rexam*. The two cases are interrelated, since the latter case concerns the divestiture of assets in *Rexam/ANC*. In this chapter the Commission's doctrine on tacit collusion and the new doctrine on non-collusive oligopolies are amongst the issues examined. Market definition in differentiated products, remedies for curing collusion and theories on remedies are also dealt with.

Lastly, Chapter 8 contains a summary of the examined issues, the conclusions of the analysis and the thesis's proposals for improving the framework of merger control in the EU.

CHAPTER 2

Merger control in the EU: basic procedural rules and judicial review

2.1 Introduction

Merger control comprises a procedural part referring to the merger review process, and a substantive part dealing with the competitive assessment of mergers. Although the focus of the thesis is on the substantive part, a reference to the procedure is also necessary because it is closely related to the effectiveness of substantive merger control.

In particular, substantive merger control can not succeed without, for instance, the existence of rules safeguarding the ability of competition authorities to gather all the necessary information about the merger and its impact on competition. Also, the Commission must be given sufficient time to properly assess the available evidence, and sufficient powers to address competition concerns, while the law must also protect the rights of the parties throughout the procedures. Lastly, transparency and predictability of the proceedings must also be protected as enhancing the credibility of the decisions and legal certainty.

This chapter analyses the procedural rules about the basic stages of EC merger control: pre-merger notification, the two-stage examination of mergers, and the enforcement of the decisions. References to the judicial review of the Commission's decisions are also made. The analysis is followed by comments and in certain cases by comparisons with corresponding US policies.

2.2 The merger review process in the EU

The merger review process comprises three possible stages:

a. notification of the concentration;

b. Phase-I investigation;

c. Phase-II investigation.

The three stages are presented and analysed below, while additional references are made about the enforcement of the final decision (defined as Phase III) and the role of the Member States.

2.2.1 Notification of the concentration

Concentrations must be notified to the Commission "prior to their implementation and following the conclusion of the agreement, the announcement of the public bid, or the acquisition of a controlling interest"[1]. The ECMR does not provide any notification deadline. This is a new policy established in the latest reforms to the ECMR, which replaced the old one-week deadline for prior notification "from the conclusion of the agreement, or the announcement of the public bid, or the acquisition of the controlling interest". The one-week deadline was reasonably characterised as excessively strict for the undertakings even if the Commission had applied it flexibly and had refrained from imposing fines when a notification was late for "technical" reasons[2].

Furthermore, the ECMR now allows for even more flexibility by providing that notification "may also be made where the undertakings concerned demonstrate to the Commission a good faith intention to conclude an agreement or, in case of a public bid, where they have publicly announced an intention to make such a bid, provided that the intended agreement or bid would result in a concentration with a Community dimension"[3]. Under the old policy notification in such cases was not possible.

Lastly, the notifying parties can also benefit from pre-notification contacts with the Commission where the two sides in a strictly confidential environment have the possibility to discuss jurisdictional and other legal issues. These contacts also serve to discuss issues, such as the scope of the information to be submitted, and to prepare for the upcoming investigation by identifying key issues and possible competition concerns at an early stage[4].

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[1] Article 4 ECMR.
[2] See also in the comments on the merger review process *infra*.
[3] Article 4(1).
[4] The Commission has issued "Best Practices on the conduct of merger control proceedings" where amongst others provides information about the purposes, timing and extent of the pre-notification contacts.

The official notification takes place mainly through the completion and submission to the Commission of Form CO[5].

Form CO requires the parties to supply a considerable amount of information including amongst others the identification of the relevant product and geographic markets as well as of "affected" markets[6]. For these markets the parties should provide detailed information about the conditions of competition and the main competitors. Such information is necessary to help the Commission assess within the short time limits the competitive effects of the merger[7]. However, collecting all the information required within strict time limits is often difficult and therefore the Commission has the power to grant waivers to the parties in the pre-notification Phase[8].

The Commission has also established a simplified notification form[9] and procedure[10] for mergers that can be expected not to give rise to competitive concerns. For these cases the Commission will adopt a "short-form" decision.

For the Commission to be able to proceed to a decision on the case the notification should be completed in all material respects, otherwise it will be declared "incomplete"[11]. In the latter case, the Commission must inform the parties without delay and the notification will not become effective until the date on which the complete information is received by the Commission. In practice, declaration of incompleteness will be less likely if the parties start extensive pre-notification contacts with the Commission, which will help them to successfully complete the

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[5] The content of the current Form CO can be found in the Annex of Commission Regulation 802/2004 (OJ [2004] L133/1). The latter Regulation (hereinafter also "the Implementing Regulation" or "IR") sets out certain important procedural aspects of the operation of EC merger control, such as the mechanisms and content of notifications and the calculation of time limits.

In respect of the notification forms, apart from Form CO, the new IR provides also a Short Form for notifications of concentrations that are unlikely to raise competition concerns, as well as an RS Form, which contains the information required for a reasoned submission for a pre-notification referral under Article 4(4) and (5) of Council Regulation 139/2004.

[6] Affected markets, according to section 6 of Form CO, are those in which the horizontal overlaps as a result of the concentration will lead to a combined market share of 15% or more. As regards vertical effects, section 6 provides that affected markets refer to a situation where "one or more of the parties to the concentration are engaged in business activities in a product market, which is upstream or downstream of a product market in which any other party to the concentration is engaged, and any of their individual or combined market shares is 25% or more, regardless of whether there is or is not any existing supplier/customer relationship between the parties to the concentration".

[7] On the issue see also, see also E. Navarro, A. Font, J. Folguera and J. Briones, *Merger Control in the EU*, Oxford University Press, 2002, 12.18.

[8] Thus, Article 4(2) of IR empowers the Commission, applying the principle of proportionality, to dispense with the obligation on the parties to provide some of the information or documents required by the notification form. This concerns information, which is requested by Form CO or the Short Form but is not necessary for the examination of the case.

[9] This is the Short Form annexed to the IR.

[10] OJ [2000] C217/32, [2000] 5 CMLR 774.

[11] Article 5(2) of IR.

notification form[12]. The supply of incorrect or misleading information in the notification form can be penalised by fines[13].

The ECMR provides for automatic suspension of a concentration before notification and until it has been declared compatible with the common market[14]. However, where appropriate the Commission may grant derogation from the provisions on suspension subject to conditions[15].

2.2.2 The Phase-I investigation

In the Phase-I investigation, which follows the submission of a complete notification, the Commission uses the information from Form CO, the results of its own brief market investigation, the negotiations with the parties and the submissions of interested third parties to determine whether the concentration falls within the scope of the Merger Regulation and, if so, whether it gives rise to competitive concerns in which case further proceedings will be required. In practice, however, the large majority of the cases falling within the scope of the Regulation are pro-competitive and are cleared in Phase I.

In more detail, the culmination of Phase I leads to a decision under Article 6 of the ECMR, according to which the concentration:

a. is outside the scope of the Merger Regulation[16]; or

b. falls within the scope of the Regulation, but does not raise serious doubts as to its compatibility with the common market[17]; or

c. falls within the scope of the Regulation and as modified by the parties no longer raises concerns as to its compatibility with the common market. The decision in this case will be cleared and may be subject to conditions and obligations[18]; or

d. falls within the scope of the Regulation but raises serious doubts as to its compatibility with the common market. In this case the Commission will open a Phase-II investigation[19].

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[12] See at para. 7 of the Commission Best Practices.

[13] Article 14(1) of the ECMR.

[14]Article 7. In respect of a public bid or of a series of transactions in securities, by which control is acquired from various sellers, Article 7(2) of ECMR states that the concentration could be implemented provided that the Commission is notified and that the acquirer does not exercise the veto rights attached to the securities in question or does so only to maintain the full value of its investments based on a derogation granted by the Commission.

[15] Article 7(3) of ECMR.

[16] Article 6(1)(a).

[17] Article 6(1)(b).

[18] Article 6(2).

Under the new policy Phase I must be completed within 25 working days from the day following that of the receipt of the complete notification with the potential of an extension to 35 working days in case of a referral to a Member State or of a submission of commitments aiming at rendering the concentration compatible with the common market[20]. Under the old policy these deadlines were one month and six weeks respectively[21].

In respect of Phase I, one should particularly focus on decisions clearing concentrations under conditions and obligations, which seek to ensure that the undertakings concerned fulfil the commitments they submitted to the Commission during Phase I[22]. The examination of commitments during that Phase -taking place under very strict time limits and with the Commission lacking the guarantees of the in-depth investigation of Phase II- can often be risky[23]. Therefore, Article 19(1) of the new Implementing Regulation ("IR"), in order to allow the Commission more time to examine the proposed commitments, provides that the latter should be submitted to the Commission within no more than 20 working days from the receipt of notification. In that case the Phase-I deadlines will be extended from 25 working days to 35 working days[24].

The parties can also submit commitments on an informal basis even before notification[25].

Moreover, the commitments submitted in Phase I must provide a sufficient degree of detail to enable their full assessment. Given the time limits and the limited scope of the Commission's investigation in that Phase, commitments will be accepted only if they provide a straightforward answer to a readily identifiable competition concern[26].

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[19] Article 6(1)(c).

[20] Article 10(1) of Council Regulation 139/2004.

[21] Article 10(1) of Council Regulation 4064/89

[22] See para. 33 of the Notice on Remedies acceptable under C.R.4064/89 (OJ [2001] C68/3).

[23] See also Navarro et al. *op.cit.*7, 13.25.

[24] Article 10(1) of ECMR. Under the old legal status the period for the submission of commitments in Phase I was three weeks and this would lead to an extension of Phase I from a month to six weeks.
However, it must be noted that the deadlines of Phase I are binding on the parties in the sense that the Commission is not obliged to take commitments into consideration in Phase I if the parties submit them after expiry of that time-limit. The rationale of this provision is that the Commission should have sufficient time to examine the commitments and decide whether they are sufficient to render the merger compatible with the common market. On the other hand, the Phase-I deadlines are not binding on the Commission and therefore the latter can consider commitments submitted after the deadlines if it believes that the circumstances of the case allow for a proper assessment of the commitments within a short period.
The Commission's power to consider commitments submitted after the deadlines was confirmed by the CFI in its recent decision in *Babyliss v. Commission* (Case T-114/02 *Babyliss SA v. Commission* [2003] ECR II-1279; [2004] 5 CMLR 1 paras.136-140).

[25] See para. 33 of the Notice on remedies.

[26] See paras.34 and 37 of the Notice on remedies.

In any case, the Regulation provides that the Commission may revoke a decision if the parties commit a breach of an obligation attached to the decision[27], or, as an alternative, the Commission may order the commencement of Phase II[28].

2.2.3 The Phase II investigation

Phase II concerns the in-depth investigation of concentrations having been found in Phase I to potentially give rise to serious concerns as to their compatibility with the common market. The Phase-II investigation seeks to confirm the existence of the above concerns through a more detailed and exhaustive investigation of the concentration.

During Phase II the Commission enjoys broad investigative powers, which include the power of the Commission to request information from persons and undertakings or association of undertakings[29] or to carry out inspections to the premises of the undertakings concerned[30]. Failure of the undertakings to cooperate with the Commission in its investigation can be associated with the imposition of fines and penalties[31], while the parties will have the right to appeal to the Court of Justice against the relevant Commission's decisions[32].

The important document of Phase II is the Statement of Objections ("SO") where the Commission sets out its objections to the notified concentration. The document is addressed to the merging parties and "other involved parties" and potentially in a non-confidential version to interested third parties[33]. The Merger Regulation makes clear that the merging parties should be given time to submit their views on the objections against them[34] and that the Commission shall base its decision only on objections on which the parties have been able to submit their observations[35]. The issue is important because it concerns the parties' rights of defence, which must be fully respected in the proceedings[36].

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[27] See Art. 6(3) of the ECMR.
[28] See Art. 6(4) of ECMR.
[29] Article 11 of ECMR.
[30] Article 13 of ECMR.
[31] These fines and penalties are imposed in accordance with Articles 14 and 15 of ECMR.
[32] Articles 11(3) and 13(4) of ECMR.
[33] Article 13(2) of IR.
[34] Article 18(1) of ECMR.
[35] Article 18(3) of ECMR.
[36] Article 18(3) of ECMR.

The CFI in *Schneider Electric SA v Commission*[37], which annulled the Commission's decision to prohibit the *Schneider/Legrand*[38] merger, stressed the importance of respecting the parties' rights of defence. The Court found that the Commission's prohibition was based on concerns, which had not been mentioned in the SO, and which therefore the parties did not have the opportunity to answer[39].

On the issue of parties' rights the Article 18(3) of the ECMR provides also that "...access to the files shall be open at least to the parties directly involved" provided that the legitimate interest of undertakings not to have their business secrets disclosed are respected. Such access is given to the parties after the issue of the SO[40]. However, in order to increase the transparency of the proceedings, the Best Practices issued recently by the Commission, allow the parties the opportunity to review submissions of third parties received during the investigation as well as other key documents (e.g. market studies) immediately after the initiation of proceedings[41].

Moreover the ECMR establishes a general right of hearing for the notifying parties, other interested parties and third parties "at every stage of the procedure up to the consultation of the Advisory Committee"[42]. The Implementing Regulation provides details of how the right to be heard can be exercised, as well as about the arrangement of formal hearings[43]. Further, the Best Practices provide for the organisation of State of Play meetings between the Commission and the parties at key stages of the investigation[44]. These meetings are held on a voluntary basis and involve the mutual exchange of information between the parties and the Commission.

Also, in accordance with relevant provisions of the ECMR and the IR, which refer to the participation of third parties[45], the Best Practices provide for the organisation of "triangular" meetings with the participation of the parties, the Commission, and interested third parties[46]. These meetings will help the Commission to clarify substantial issues before deciding to issue the SO.

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[37] Case T-310/01 *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 768 (annulment of prohibition decision); Case T-77/02 *Schneider Electric v. Commission* [2002] ECR II-4201 (annulment of divestiture decision).
[38] Case COMP/M.2283 (Decision of 10 October 2001).
[39] The detailed argumentation of the Court on the issue can be seen in paras.437-462 of the decision, which annulled the Commission's prohibition.
[40] Article 13(3) of IR.
[41] See paras. 45-46 of the Best Practices.
[42] Article 18(1) of EMCR.
[43] See Chapter IV (Articles 11-16) of IR. The healings are conducted by the Hearing Officer in full independence.
[44] Paras.30-33 of the Best Practices.
[45] Article 18(4) of the ECMR and Article 16(1)-(2) of IR.
[46] Paras. 38-39 of the Best Practices.

Further, the Commission consults closely and constantly with the competent authorities of the Member States throughout the procedure[47]. The main means of collaboration is through the Advisory Committee comprising representatives of the Member States[48]. The Commission is obliged to consult the Committee before adopting any decision ending the Phase II investigation and also in case of the imposition of fines or periodic penalty payments[49]. The opinions of the Advisory Committee are not binding on the Commission, but the latter takes them into account before adopting a final decision[50].

<u>Decisions in Phase II</u>

The possible decisions at the end of Phase II, according to Article 8 of the ECMR, are as follows:

a. The concentration may be declared compatible with the common market unconditionally[51]. However, such unconditional clearance is rather rare and this is quite normal given that Phase II investigation starts only after the Commission identified serious doubts in Phase I[52].

b. The concentration may be declared compatible with the common market, subject to commitments and obligations[53]. These cases concern concentrations, which were modified by the parties in order to get clearance, and the commitments and obligations imposed by the Commission seek to ensure that the parties will carry out these modifications.

c. The concentration may be declared incompatible with the common market[54].

The legal test of compatibility is provided by Article 2(2) of the ECMR, according to which a concentration will be declared compatible with the common market if it "...would not significantly impede effective competition in the common market or in

[47]Article 19 of ECMR. This consultation starts from the moment of the notification of the concentration and is particularly important during the second stage, where concentrations that may have significant competitive effects in the territory of some or all the Member State are examined.

[48] The Advisory Committee was established in accordance with Article 19(3) of C.R.4064/89.

[49] Article 19(3).

[50] Article 19(6).

[51]Article 8(1). However, the decisions in such cases covers restrictions directly related and necessary to the implementation of the concentration.

[52] According to the Commission' s statistics between 1990 and 2003, only 23 cases were cleared without commitments at the end of Phase II.

[53] Article 8(2). The decision shall also cover restrictions directly related and necessary to the implementation of the concentration.

[54] Article 8(3).

a substantial part of it, in particular as a result of the creation or strengthening of a dominant position". This legal test is new and was inserted to the Merger Regulation in the latest reforms. An analysis and discussion on the content of that test as well as about the old dominance test takes place in chapter 3 of the thesis.

Further, in accordance with Article 8(4), the Commission may take measures to restore effective competition in cases where concentrations have been declared incompatible with the common market following their implementation or where concentrations have been implemented in contravention with a crucial condition imposed on them by the Commission. The restorative measures include the dissolution of the concentration or, if this is not possible, any other measure.

The Commission may also take interim measures to restore or maintain effective competition in case where a concentration has been implemented before a decision as to its compatibility with the common market has been taken, or has been implemented in violation of a condition imposed by the Commission, or has been implemented and is declared incompatible[55].

The Commission may also revoke a decision clearing the merger on the basis of incorrect information for which the parties are responsible or where it has been obtained by deceit or in case of breach of an obligation[56].

In case of revocation or if the parties breach a condition imposed on them for gaining clearance in Phase I or II, the time limits for coming to a decision in Phase II are suspended and the Commission will re-examine the case adopting a new decision[57].

Lastly, the Commission's decisions under Article 8 are notified to the parties and the competent authorities of the Member States without delay[58].

Deadlines of Phase II

The new deadlines for the completion of Phase II resulting from the latest reforms to the ECMR are as follows[59]: the old deadline of four months is replaced by 90 working days, with the potential of further extension by 20 working days if requested

[55] Article 8(5).
[56] Article 8(6).
[57] Article 8(7).
[58] Article 8(8).
[59] Articles 10(3) of ECMR.

by the notifying parties or by the Commission with the agreement of the parties. In addition, the new policy provides for extension by 15 working days after the completion of the 90-days period if the parties submit their commitments after the 54th working day that followed the initiation of Phase II. The period set for Phase II starts the date on which the proceedings were initiated.

Further, suspensions of the Phase-II deadlines are provided for the period where the Commission has had to request information by decision pursuant to Article 11 or to order an inspection by decision pursuant to Article 13[60].

The deadlines of Phase II are generally strict taking into account that the investigation is in-depth and involves scrutiny of complex cases. Moreover, the process has in many cases a highly adversarial nature, particularly concerning the selection of the appropriate remedies for addressing the identified competitive concerns, and this makes the deadlines even stricter[61].

In respect of commitments the IR, in accordance with the new rules, provides that the parties must submit their commitments within no more than 65 working days from the date on which the proceedings were initiated, while in case of an extension of Phase II, the period of 65 working days will be extended by the same number of working days[62]. In addition, as mentioned above, in case commitments are submitted after the 55th day, the period of Phase II may be extended by 15 working days namely from 90 to 105 working days.

However, the examination of remedies is a complex task. First, the Commission must send to the parties the SO. Then, the parties must reply to the SO and design and propose commitments sufficient to address the competition concerns of the Commission as identified in the SO[63]. The selection of the appropriate commitments is often difficult and takes time, while the parties must also provide details about their implementation[64]. Then, the Commission will market-test the proposed commitments, after consulting with the Member States and in some cases with the authorities of non Member States, to see if they are acceptable[65] and will either clear or block the

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[60] Article 10(4) of ECMR.

[61] See also Antoine Winckler "Some Comments on Procedure and Remedies under EC Merger Control Rules: Something Rotten in the Kingdom of EC Merger Control?" 26 *World Competition*, 2003, 219, 223-225.

[62] Articles 19(2) of IR. Under the old IR (Commission Regulation 447/98), which was following the old deadlines of Council Regulation 4064/89) the commitments had to be submitted to the Commission within not more than three months from the initiation of Phase II.

[63] Paragraph 42 of the Notice on remedies.

[64] *Ibid.*

[65] Paragraph 43 of the Notice on remedies.

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merger. All this process needs to be completed within the strict deadlines of Phase II. Given that there are fixed deadlines for the submission of commitments, while there is no deadline for the submission of SO it is likely the dates of the submissions of SO and the commitments to be very close to each other particularly in complex cases. Such a potential, however, could create problems to the notifying parties, which would have very little time to their disposal to design sufficient commitments to address the Commission's concerns as expressed in SO[66].

In the past there were cases where the parties withdrew notification because they were unable to finalise commitments sufficient to address the Commission's concerns within the existing deadlines[67]. Also, in *Schneider/Legrand*[68], the Commission rejected a second proposal of commitments by the parties on grounds of insufficient time for their examination. The Commission also rejected the parties' proposal for extension of time of Phase II because it did not see any exceptional circumstances[69]. However, the Commission's decision was annulled by the CFI on grounds, amongst others, that the parties' rights of defence had been violated because the parties had not been put in position to submit in good time proposals for divestiture sufficiently extensive to resolve the competition problems identified by the Commission[70].

A potentially preferable solution to the problem could come from a "stop-the-clock" agreement between the Commission and the parties, which would enable suspension of Phase-II deadlines during the examination of commitments' suitability. The Merger Regulation partly adopts such a solution by providing for the potential of a 20-days extension in Phase II following agreement between the parties and the Commission or a 15-days extension in case of commitments negotiation. These developments offer some flexibility without however solving all the problems as will be argued below.

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[66] The parties have already from the negotiations with the Commission before the submission of the SO some knowledge of the Commission's competitive concerns and have therefore more time to prepare their commitments. However, from a legal aspect the parties are obliged to address competition concerns as prescribed in the SO in order to get clearance of their merger and therefore they have to wait until the submission of the SO before the finalise their proposed commitments. Thus, if the date of the submission of SO is close to the deadline for the submission of commitments it is likely particularly in complex cases that the parties may not have enough time to respond properly through the submission of commitments to the SO. On this issue see also Michael Kekelekis "The 'Statement of Objections' as an Inherent Part of the Right to be Heard in EC Merger Proceedings: Issues of Concern" 25 *E.C.L.Rev.* 2004, 518, 523-4.

[67] One such case was *Warner/EMI* (Case COMP M.1852). See also Richard Whish, *Competition Law*, (5th Ed.) Butterworths, 2003, at 853.

[68] Case COMP/M.2283 (Decision of 10 October 2001).

[69] See also Whish *op.cit.*67; Winckler *op.cit.*61.

[70] Case T-310/01 *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 768 para. 460.

2.2.4 Phase III

Phase III concerns the implementation of the Commission's final decisions on notified concentrations under the Merger Regulation. This Phase applies in cases where the merger has been cleared subject to conditions and obligations either in Phase I or in Phase II. In these cases the Commission needs to safeguard the compliance of the parties with the conditions and obligations imposed on them.

The focus is particularly on the divestiture of assets, which aims at restoring effective competition in the markets of concern. In respect of these assets the Commission must ensure their independence, economic viability, marketability and competitiveness of their sale to an appropriate buyer[71]. For this purpose, the Commission may approve the appointment of a trustee, proposed by the parties, to oversee their compliance with such preservation measures (the so-called "hold-separate trustee")[72]. Moreover, the Commission may approve the appointment of a "divestiture trustee"[73] with responsibility to oversee the implementation of the divestiture itself. The powers of this trustee concern not only the control of the suitability of the purchaser proposed by the parties for the divestiture assets, but also the search for an acceptable purchaser in case the parties are unable to find such a purchaser within the prescribed time limits. However, the final decision on the purchaser to be selected is on the Commission.

The implementation Phase is important because it concerns the realisation of the remedies, which are directed to the restoration of effective competition in markets where serious competitive concerns have been identified by the Commission. If that Phase is not successfully completed, then the central goal of merger control, namely the protection of effective competition in the territory of the Community, will not be fully met. The Merger Regulation therefore provides the Commission with power to stop the implementation of the concentration in a case where the parties breach crucial conditions and obligations imposed on them in the decision approving the concentration[74]. In particular, the Commission may require the dissolution of the concentration or take interim measures in a case where the latter was implemented in

[71] See Navarro et al., *op.cit.*8, 13.101.
[72] See para. 52 of the Notice on remedies.
[73] See paras 54 of the Notice on remedies.
[74] See Article 8 of ECMR.

contravention of a crucial condition[75]. Moreover, in the presence of a breach of an obligation the Commission may revoke its decision[76]. In both cases (breach of condition and/or obligation) the Commission may also fully reassess the cases, without being bound by the deadlines of Phase II[77].

However, as will be seen in details in the analysis of aluminium markets later in the thesis, the Commission's policies in the implementation Phase potentially raise certain questions about their effectiveness, particularly concerning the divestiture of assets. In particular, the Commission's approvals of purchasers as suitable do not seem to be always satisfactory.

2.2.5 Relations with Member States

Although the Commission has exclusive jurisdiction to deal with concentrations having Community dimension, it nevertheless has to cooperate with Member States on several issues concerning the application of Merger Regulation. Thus, the Commission must send copies of the notification and other important documents of the case to the competent authorities of the member States[78] and carry out the procedures set out in the regulation in close and constant liaison with these authorities[79]. Also in Phase II the Commission is required before adopting a final decision to consult an Advisory Committee on concentrations consisting of representatives of the competent authorities of the Member States[80]. However, the Commission is not bound by the opinion of the Advisory Committee.

Further, the Commission and Member States are involved in referral cases under Articles 9 and 22(1) of the ECMR, which cover referrals from the Commission to the Member States and from the Member States to the Commission respectively[81].

[75] Article 8(4)-(5) of ECMR.
[76] Article 8(6) of ECMR.
[77] Article 8(7) of ECMR. As can be inferred from the above, the terms conditions and obligation are distinct ones: conditions mean all the measures contained in a commitment that structurally change the market (e.g. divestiture); obligations mean all the implementing steps necessary to properly fulfil the various commitments (e.g. appointment of a trustee with an irrevocable mandate to sell the business) (see para 12 of the Notice on remedies).
[78] Article 19(1) of ECMR requires the Commission to submit within three working days to the competent authorities of the Member States copies of the notification and as soon as possible copies of the most important documents of the case including those referring to the commitments proposed by the parties.
[79] Article 19(2) of ECMR. Member States have the right to make known their views at any stage of the proceedings. The Commission's decisions, if challenged by Member States, will stand unless or until they are overruled by the CFI or the ECJ. This was the ruling of CFI in Case T-52/96 *Sogecable v. Commission* [1996] ECR II-797.
[80] Article 19(3)-(7) of ECMR.
[81] In particular, Article 9 of ECMR provides for the potential of a referral by the Commission to a Member State that a Member State in the following case:

Lastly, the Member States, in accordance with Article 21(4) of the ECMR, may deviate from the "one-stop-shop" principle by taking appropriate measures to protect their "legitimate interests"[82]. These measures involve action to control certain aspects of a concentration that affect the territory of the Member State concerned.

2.2.6 Some comments on the merger review proceedings in the EU-comparison with the US model

The European legislators understood the multiple benefits of corporate reorganisation for the promotion of the competitiveness of the European industry and economy and designed the merger review proceedings in a way favourable to concentrations. Thus, in principle, there is no presumption against concentrations in EU law. However, given that a minority of concentrations have harmful effects to competition, the European legislators sought also to establish an effective legal framework that will stop these few anticompetitive transactions without, though, harming the majority of transactions that are pro-competitive.

The favourable treatment of concentrations by the Merger Regulation is clearly visible at least concerning the following issues:

a. The establishment of a single notification for concentrations "with a Community dimension" allows companies involved in large transactions to avoid multiple filings with national jurisdictions within the EU and to notify only to the Commission[83].

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a. the concentration threatens to affect significantly competition in a market within that Member State, which presents all the characteristics of a distinct market;
b. the concentration affects competition in a market within that Member State, which presents all the characteristics of a distinct market and which does not constitute a substantial part of the common market.

If the above criteria are met Article 9 provides that the Commission will either deal with the case itself applying the ECMR or will wholly or partly refer the case to the national authorities concerned for application of the national competition law.

Further, Article 22(1) provides that the Commission acting at the request of member States may examine a concentration with no Community dimension. In order to be examined by the Commission such a concentration must have impact on trade between Member States and threaten to significantly affect competition within the territory of the Member State or States making the request. If these conditions are met, the Commission applying the provisions of the Merger Regulation will assess the case.

[82] The "legitimate interests" of the Member State should be compatible "with the general principles and other provisions of Community law". Article 21(4) provides three types of interests that are considered legitimate: public security, plurality of the media and prudential rules, while the recognition of any other public interest as a "legitimate" one is also possible if that interest is compatible with the general principles and other provisions of Community law.

[83] According to Sir Leon Brittan Q.C., now Lord Brittan, who was the European Commissioner for Competition when the C.R.4064/89 was adopted: "...All mergers with a Community dimension will benefit from the one-stop-shop regime. We have clarified and simplified the law in an area, which was full of uncertainties and complications. A large European merger which had to be hawked around several European capitals for approval and consideration also had to be given to the precise scope of Articles [81] and [82] [EC] in this field, on the basis

b. The short and fixed deadlines for the completion of the various stages of the Commission's investigation leads to an early termination of the proceedings, thus enabling the firms involved in the majority of cases to proceed fast to the implementation of their transaction. The existence of fixed deadlines enhances also legal certainty, which is also in the benefit of firms[84].

c. The provisions concerning suspension or extension of the proceedings do not cause long delays, since the Commission's standard practice seems to be to seek early termination.

d. In order to avoid unnecessary delays the parties are also encouraged to carry out pre-notification contacts with the Commission, which help for the proper preparation of the file.

e. The concentration is exclusively assessed for its impact on competition and no other criteria apply[85].

f. The test of compatibility takes into account all the possible factors relating to the impact of the concentration on the relevant markets and there is no presumption of illegality based for instance solely on the level of market shares or the size of the merged entity[86].

g. Each and every merger notified to the Commission results in the adoption and publication of a reasoned decision.

The measures taken to detect and block anticompetitive concentrations include the following:

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of two judgments of the European Court. Now we have the policy right and we have clarified the procedures and the substantive rules" (see Sir Leon Brittan Q.C., now Lord Brittan, "The Law and Merger Control in the EEC" 5 *E.L.Rev.*, 1990, 351, 357). According to the Recital 12 of C.R.139/2004 multiple notification "...increases legal uncertainty, efforts and cost for undertakings and may lead to conflicting assessments".

[84] On the issue, see also Rachel Brandenburger and Thomas Janssens "European Merger Control: Do the Checks and Balances Need to be Reset?" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2001, 135, 160, 163-4).

[85] This can be seen in Article 2(1) of ECMR, which sets the relevant criteria for the appraisal of concentrations. According to Lord Brittan "...the [Merger] Regulation gives clear primacy to the competition criterion with only the smallest nod in the direction of anything else" (see Sir Leon Brittan Q.C., now Lord Brittan "The Early Days of EC Merger Control" in *EC Merger Control: Ten Years On*, International Bar Association, London, 2000, .3). According to the incumbent European Commissioner for Competition, Mario Monti "Above all, we have put in place a merger control system, which is characterised by the complete independence of the decision-maker, the Commission, and by the certainty that mergers will be exclusively assessed for their impact on competition" (Mario Monti "Merger Control in the European Union: A Radical Reform", Speech at the European Commission/IBA Conference on EU Merger Control, Brussels, 7 November 2002). The issue of the assessment criteria of concentrations will be discussed in the analysis of the cases later into the thesis and also in the conclusions.

[86] See also Cook & Kerse *EC Merger Control*, (3rd Ed.), Sweet & Maxwell, 2000, 6. This issue will be clarified in the analysis of issues of substantive merger control throughout the subsequent chapters of the thesis.

a. All parties to concentrations under the ECMR are required to send a detailed Form CO, which contains details about the concentration and its impact on competition, thus helping the Commission to detect anticompetitive mergers;

b. All transactions falling within the scope of the ECMR are subject to scrutiny by the Commission;

c. The Commission is given broad powers in the collection of market evidence about the impact of the concentrations on competition.

d. The Commission is given broad decision-making power. Thus, the Commission can approve unconditionally, subject to conditions and obligations or prohibit concentrations falling within the scope of the ECMR. However prohibition is the last resort, and is used only after all possibilities of settlement of the case have been exhausted.

Although the application of the Merger Regulation by the Commission was widely regarded as having been highly successful[87], problems had often arisen concerning certain procedural rules, mostly the deadlines for notification and Phase-I and II investigations. These problems, as shown above, led the Commission to amend the relevant provisions of the Merger Regulation by dropping the notification deadlines and allowing more flexibility in the deadlines for Phases I and II.

However, for Phase II it seems that even the new deadlines, by providing for extension from 90 to 105 working days for the examination of commitments submitted after the 54th working day from the initiation of Phase II, and also an extension by up to 20 days after the 90th day with the consent of the notifying parties, do not depart significantly from the old deadlines. Thus, the new deadlines may still not be sufficient to address all the problems posed by the increasing complexity of the in-depth investigations and the examinations of the commitments.

The increasing complexity of investigations concerns not only the increasing size of the undertakings concerned and the affected markets but also the increasing use of sophisticated economic tools in merger analysis (e.g. merger simulation) for which the collection of large amount of firm and market data is required[88].

[87] See e.g. "The Review of the Merger Regulation", 32nd Report of the House of Lords Select Committee on the European Union, HL Paper 165, Session 2001-2002, para.21 ("The Merger Regulation has become one of the cornerstones of EC competition law and many witnesses (from business to regulators) have spoken to us about how highly they regard the Regulation and what a success its operation has been. The Committee recognises the good role of the Commission in applying the ECMR"). See also Nicholas Levy "EU Merger Control: From Birth to Adolescence" 26 *World Competition,*.2003, 195, at 200-201.

[88] The old four-month timetable for Phase II had also been considered as often being inadequate to meet the requirements of the in-depth investigation of Phase II (see also Winckler *op.cit.*59, 224; Werner Berg and Patrick

In respect of commitments, both the notifying parties[89] and the Commission had under the old system complained of serious time constraints in the submission and the examination of the commitments respectively[90]. The new deadlines are not much more flexible than the old ones and therefore similar complaints may appear also in the future.

A last but potentially most important reason showing that the new Phase-II deadlines may not be adequate concerns the new substantive test of the Merger Regulation. As will be seen in detail in the chapters to follow, the new test is broader than the old test, since it includes within its scope also unilateral effects (or non-collusive oligopolies). The new test allows also for a more flexible approach to broad oligopolies, which are beyond duopolies that were traditionally the main source of concern for the Commission in situations of collective dominance. Lastly, the new test potentially allows also for the establishment of both unilateral and coordinated effects in the same merger as does the US merger law. This is so because under the new test the focus is on significant impediment to effective competition as a result of the merger and leaves to the Commission the decision on what forms impediment of competition will take: Unilateral effects and of what form? Coordinated effects? Both? This situation is different than under the old test where the Commission focused only on the establishment of dominance. Under the new test the Commission has to carry out broader and more detailed investigations to establish all possible anticompetitive effects of the merger and not only dominance, while the examination of commitments may also become in certain case more complex. Thus, even the new fixed timetables of Phase II may raise barriers for the in-time completion of the Commission's investigations.

In this context, would it have been a more appropriate solution to abandon the fixed deadlines in Phase II and adopt an even more flexible approach, such as that followed in US concerning the Second Request, the US equivalent of Phase II, which is open-ended? The Commission has in several instances stressed the significance of fixed deadlines in merger review for enhancing legal certainty and the predictability of the proceedings, but, on the other hand, it has to be mentioned that Phase II applies

Ostendorf "The Reform of EC Merger Control: Substance and Impact of the Imposed new Rules" 24 *E.C.R.Rev.*2003, 504, at 598).

[89] See for instance the notifying parties' complaints for the Commission's refusal to examine the proposed by the parties modified commitments due to the lack of sufficient time for market testing in *Schneider/Legrand* case.

[90] See the Commission's Green Paper on the Review of Merger Regulation (EEC) No 4064/89 at para.208.

only to a small minority of cases examined under the Merger Regulation. Also, that, as mentioned above, the increased complexity of the Phase-II cases and the broader scope of the market test require additional efforts for the identification of the competitive problems and the selection of the appropriate remedies, and the existence of fixed deadlines may raise obstacles to these efforts, thus endangering the effective application of merger control. Therefore, the examination of an alternative solution for Phase II should not in the thesis view be excluded.

However, to decide whether an open-ended Phase-II investigation such a solution reference to the US experience on the issue would be illustrative.

2.2.6.1 The US merger review system

The merger review proceedings in US start, as in Europe, with the pre-merger notification in accordance with the Hart-Scott-Rodino (HSR) Act, which came into force in 1976[91]. The HSR Act currently establishes a notification requirement for all transactions with a value in excess of $50 million[92]. The HSR Act establishes no deadline for notification but requires the latter to take place prior to the implementation of the agreement. The HSR filing form, unlike Form CO in Europe, does not require the parties to describe markets, competition, competitors and customers but only to submit certain specifically defined documents that are most likely to relate to the competitive effects of the transaction[93].

After the submission of a complete notification the competition agencies, DOJ or the FTC, have 30 days, in which to file a response, or 15 days if the controlling party

[91] The HSR Act added section 7A to Section 7 of Clayton Act (15 U.S.C. Sec. 18a).
[92] The HSR was amended in 2000 when, amongst others, the threshold for notifiable transactions was increased from US$15 million to US$50 million. For more information about the new valuation rules see Malcolm R. Pfunder "Valuation Issues under the Amended Hart-Scott-Rodino Act and Rules" 16-SPG *Antitrust*, 2002, 37. Further amendments to the HSR were adopted in 2004. These amendments concerned the treatment by HSR of non-corporate entities and certain technical corrections in other rules of HSR.
[93] The requirement of only limited information in the initial filing form is based on the idea that the vast majority of the thousands of cases notified annually in accordance with the HSR Act do not raise competitive concerns. Item 4(c) of the form contains the most important list of documents relating to the potential competitive effects of the merger and which must be provided with the initial filing. The list includes a number of pre-existing documents, such as all studies, surveys, analyses or reports prepared by or for any officer or director for the purpose of evaluating or analysing the acquisition with respect to market shares, competition, competitors, markets, potential for sales growth or expansion into product and geographic markets. However, the requirements for documents in Item 4(c) have been characterised vague and subject to various interpretations and there have been suggestions for amending Item 4(c).

On the issue see also the Final Report of the International Competition Policy Advisory Committee (ICPAC) to the Attorney General for Antitrust of the US, 2000, at 118; also William Baer and Deborah Feinstein "Item 4(c): The Next Step in HSR Reform" 16-SPG *Antitrust*, 2002, 43.

is making a cash tender offer[94]. If there is no decision by these agencies during that period -the equivalent of Phase-I period in Europe- the parties can proceed with the implementation of their agreement. Conversely, if the agencies find that the merger potentially raises competitive concerns, they will open a Phase-II investigation by submitting to the parties a mandatory Second Request (SR) for further information[95].

The investigation on the case following the submission of the SR is in practice open-ended. The basic reason is that SRs are broadly drafted to ensure access to a wide array of potentially relevant information and thus the compliance of the parties with the SRs is often difficult and takes long time[96]. The US competition agencies justify the very detailed nature of the SR by the fact that they lack access to information about the industry, the proposed transaction, and other key facts, since the information provided by the parties with the initial filing is very limited[97]. The agencies also stress the fact that according to the US legislation, unlike the ECMR, they are not entitled to block a problematic merger themselves, but must ask a federal court to enjoin the transaction[98]. As a result, the agencies must have as much information as possible in order to convince the court[99].

Lastly, the agencies use as an additional reason for the detailed nature of SR the fact that merger analysis under the US merger guidelines focuses on dynamic competition considerations for which the collection of large amounts of data and information are required[100]. However, certain opponents of the SR view it as a discovery process where agency lawyers typically take the 'shotgun' approach, asking for everything they think might be interesting or useful, to avoid missing anything and, frequently, to buy time[101].

Thus, although the US agencies are required to file a response to the SR within 20 days from the submission of the required information by the parties, the whole

[94] 15 U.S.C.§ 18(b)(1)(B).
[95] The agencies may also ask the parties to provide additional information voluntarily within the initially 30-day review period. See also the ICPAC Report *op.cit.*93, 119.
[96] See also ICPAC *ibid.*, 122.
[97] See also *ibid.*
[98] *Ibid.* About this issue see also the analysis about US merger control in subsequent chapter, as well as later in this chapter.
[99] More detailed reference to the role of the court in merger review process in US is made in chapter 5 of the thesis.
[100] See William Baer "Reflections on Twenty Years of Merger Enforcement under the Hart-Scott-Rodino Act" 65 *Antitrust L.J.*, 1997, 825, 843.
[101] See Joe Sims & Deborah P. Herman "The Effect of Twenty Years of Hart-Scott-Rodino on Merger Practice: A Case Study in the Law of Unintended Consequences Applied to Antitrust Litigation" 65 *Antitrust L.J.*, 1997, 865, 877.

process lasts for months because the parties are unable to comply quickly with the SR[102].

In practice, however, according to available statistics, the second stage investigations in US are completed on average in about four months, similarly to Phase-II investigations in Europe[103]. Moreover, the US agencies have adopted policies requiring the production of documents in stages, such as the "quick look" policy, according to which the agencies focus on issues determinative in concluding that the transaction likely does not raise anticompetitive concerns[104]. If they can reach such a conclusion full-document production is not required. Such policies help that that in most cases the parties comply only partially with the SRs and the transactions are resolved with relatively modest document productions[105].

However, there have been cases in which the provision of enormous number of documents was required to satisfy the agencies[106] and also cases where the overall process lasted for a year or longer[107].

2.2.6.2 The US experience and the adoption of an open-ended Phase II in Europe

The complaints of the notifying parties in many cases of unduly burdensome SR proceedings has led in US to discussions for the abandonment of this open-ended process and the adoption of a new system. The European model of fixed timetables was amongst those proposed. However, the International Competition Policy Advisory Committee (ICPAC), which was formed by the US DOJ to report on international antitrust matters, in its Final Report of February 2000[108] concluded that in the US reality the adoption of such timetables would cause practical difficulties[109]. The US concerns were based mostly on the following issues:

a. the existence of a fixed timetable for the completion of Phase II would make the parties to delay compliance with the SR in order to thwart the agencies' efforts to effectively review the transactions;

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[102] See ICPAC *op.cit.*93, 131.
[103] *Ibid.*
[104] *Ibid.*,122-123.
[105] *Ibid.*
[106] By way of example in the *Boeing/McDonnell Douglas* merger the parties submitted to US authorities approximately 5,000 boxes of documents containing 5 million pages. In contrast, in Europe the documents submitted to the Commission by the parties were numbered only in thousands (source: ICPAC, *op.cit.*93, at 139).
[107] *Ibid.*,, 131.
[108] *Op.cit.*93.
[109] However, the Report referred to the positive European experience about fixed timetables (see at p.132).

b. the existence of a fixed timetable for the completion of Phase II would require the existence also of a fixed deadline for compliance with the SR, which according to ICPAC would eliminate much of the flexibility that parties enjoy under the current system in restructuring and implementing their transactions;
c. the risk of enforcement errors would increase, because the agencies would be forced to act under time pressure[110].

Although the experience from the use of fixed timetables in the EU has been largely positive, one can not deny that even in the more flexible new Phase-II deadlines may still prove inadequate in some cases. Even if the Commission does not follow during Phase II the US practice of requesting huge amounts of information and data from the firms, it nevertheless seems that the increasing complexity of the Phase-II investigations along with the increasing sophistication of economic tools of analysis used in such cases may require the extension of that Phase beyond the existing deadlines. The adoption of a new market test with broader scope in the Merger Regulation points also in that direction, since the Commission's analysis in addition to cases of dominance will have to deal also with unilateral effects.

Thus, although this thesis does not support the adoption of the open-ended US model it nevertheless believes that the Commission should be given the power at the request of the parties or in agreement with them to extend in some difficult cases the Phase-II investigations beyond the existing deadlines and for a period sufficient to enable the completion of the investigation. This solution should be provided only for exceptional cases where difficulties arise for the completion of the investigation or the proper submission and examination of the commitments within the existing deadlines and extensions provided by the Merger Regulation. The initiative should belong to the parties or to the Commission but with the agreement of the parties[111].

The potential for further extension in difficult cases will benefit both the parties and the Commission. The parties will benefit because they will have more time to convince the Commission, particularly through the submission of potentially more sophisticated commitment packages or through the presentation of sophisticated economic models in support of their views. The parties also will have fewer reasons to

[110] For more details see at pp.132-3 of the Report.
[111] The parties could request further extension in order, for instance, to prepare a more effective package of commitments. The Commission could also request further extension for instance in order to have sufficient time to its disposal, to market test a more sophisticated commitment package. The period for which further extension is requested will be specified in the request.

doubt about the Commission's final decisions because they will know that their case was examined thoroughly and they were given all the chances to defend their positions. Thus, the need to appeal to the Court against the Commission's decision, and the financial costs and time-loss that are associated with such a move, will also be reduced[112]. The Commission from its side would have more time at its disposal to safeguard the full completion of its investigation thus avoiding potential assessment errors.

For further extending Phase II there will be no need to abandon the existing timetables but only to make a special provision in the Merger Regulation. This thesis believes that it is better granting further extension for the completion of Phase II in order to more effectively deal with objective difficulties arising in the context of merger review and the broader market test than to strictly stick to the existing timetables and potentially make errors in assessment.

Moreover, this thesis argues for the more frequent use of dynamic competition analysis in merger review. Dynamic analysis is more complex than static analysis, takes more time to complete, but offers more effective competitive assessments. A dynamic analysis does not rely solely on static factors such as market shares or "checklists" for concluding on the competitive effects of a merger but goes deeper into the competitive process by analysing the post-merger firms' behaviours ("maverick firms", raising-rivals'-costs strategies etc) or the potential impact of the merger on prices (e.g. merger simulation), thus enhancing the credibility of the competitive assessments[113]. Dynamic analysis is more complex and difficult because it requires the collection of large volumes of data and information about firms and markets but it nevertheless can offer very useful evidence to competition authorities particularly in difficult cases[114]. The thesis therefore believes that the law should allow for certain cases the further extension of the existing timetables as a means to promote more effective competitive assessment based on dynamic analysis.

Although an alternative solution for prolonging the Phase-II investigation would be through the more extensive use of stop-the-clock provisions without altering the

[112] Cases such as that of *Schneider Electric/Legrand* where the parties took the Commission to the Court complaining amongst others that they were not given enough time to submit their response to the Commission's objections to the merger could have been avoided under the proposed system.
[113] Some illustrations of how the thesis apprehends dynamic merger analysis will be presented in the course of the analysis of the aluminium markets in subsequent chapters.
[114] See for instance the details about the application of merger simulation or the maverick-firms methodology in subsequent chapters of the thesis.

fixed timetables, this thesis believes that such a solution would be less effective because it would put at risk the certainty and predictability of the process, which is a big success of the current system. On the other hand, by providing for only exceptional cases the potential of further extension on the Phase-II investigations, the benefits from the fixed timetable will not be abandoned, while the flexibility of the new rules will help to avoid complaints, particularly by the parties, for incomplete assessment of their arguments due to the lack of time.

2.3 Judicial review of the Commission decisions

According to Article 21(2) of the ECMR the Commission's sole jurisdiction to take decisions under the Regulation is subject to review by the Court of Justice[115]. The Court reviews both procedural and substantive issues of merger control, while it deals also with damages proceedings against the Commission[116].

The involvement of the Court has been relatively rare but not insignificant. The rareness of the judicial involvement has been largely attributed to the existence of lengthy procedures, which prevented the exercise of effective judicial control within reasonable time. This problem was solved through the introduction of "fast track" procedures in 2001, which shortened the timeframe of judicial review[117].

In the cases where the Court was involved important procedural and substantive issues were raised and dealt with, such as the protection of the parties' rights of defence[118], the meaning of control, the application of the Merger Regulation to situations of collective dominance, the nature of commitments, and the conglomerate effects[119].

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[115] Also Article 16 of ECMR refers to the review by the Court of penalties imposed by the Commission. Articles of the EC Treaty concerning judicial review of Community acts and Community institutions for failure to act, such as Article 230 also apply.

[116] Actions for damages are based on Article 215 of the EC Treaty. Two such cases for which judgments are pending are those of *MyTravel v. Commission* (Case T-21/03) and *Schneider v. Commission* (Case T-35/03) which were launched against the Commission following the annulment by the CFI of the Commission's prohibitions of *Airtours (MyTravel)/First Choice* (Case IV/M.1524 OJ [2000] L93/1, [2000] 5 CMLR 494) and *Schneider/Lengrand* (case COMP/M.2283) mergers.

[117] OJ [2000] L 322/4.These "fast track" (expedite) procedures allow for a judgment by the Court within 12 months. This new type of expedite procedures was designed to deal with cases of an urgent nature, mergers amongst them. For more details see Kyriakos Fountoukakos "Judicial Review and Merger Control: The CFI's Expedite Procedure" Commission's *Competition Policy Newsletter*, 2002, 7.

[118] *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 768.

[119] E.g. Joint Cases C-68/94 and 30/95 *France Republic v. Commission (Kali&Salz)* [1998] ECR I-1375; Case T-102/96 *Gencor v. Commission* [1999] ECR II-753, [1999] 4 CMLR 971.

In most cases, the Court's involvement helped to clarify certain issues for which the Merger Regulation did not provide clear answers, but in its latest batch of important decisions (*Airtours v. Commission*[120], *Schneider Electric v. Commission*[121], *Tetra Laval v. Commission*[122] and *Babyliss SA v. Commission*[123]) the Court seemed also to target the Commission's discretion in the assessment of economic evidence. In particular, in these cases the Court annulled the Commission's decisions to prohibit or authorise the mergers on grounds, amongst others, of significant assessment errors about economic evidence[124].

The Court interventions in the above cases fuelled the debate about the role of judicial review in merger enforcement in the EU.

According to one view, the Court intends to limit or at least control the Commission's powers concerning substantive merger control[125]. Another view suggests that if the Court reopens economic assessments in future cases the Commission's ability to exercise the powers given to it by the Merger Regulation will be significantly compromised[126]. Similarly, it has been argued that an increased involvement of the Court in merger review will be practically ineffective, since even under the "fast track" procedures, a final decision is delivered in several months, which -added to a waiting time of several months for the adoption of the Commission's decision- constitutes an excessively long period for the merging parties[127]. However, an opposite view contends that the involvement of the Court needs to be increased because under the current system, the merging parties are not sufficiently protected[128].

It is submitted that the Court's role in EC Merger Control cannot be ignored or minimised since the Merger Regulation clearly provides the Court with authority to

[120] Case T-342/99, *Airtours Plc v. Commission* [2002] ECR II-2585, [2002] 5 CMLR 317.
[121] Case T-310/01 *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 768 (annulment of prohibition decision); Case T-77/02 *Schneider Electric v. Commission* [2002] ECR II-4201 (annulment of divestiture decision).
[122] T-5/02 *Tetra Laval v. Commission* [2002] ECR II-4381, [2002] 5 CMLR 1182 (annullment of prohibition decision); Case T-80/02 *Tetra Laval v. Commission* [2002] ECR II-4519, [2002] 4 CMLR 1271 (annulment of divestiture decision).
[123] Case T-114/02 *Babyliss SA v. Commission* [2003] ECR II-1279; [2004] 5 CMLR 1
[124] The three cases are examined in details in other parts of the thesis.
[125] See also Whish *op.cit.*67, 858. Also Ali Nikpay and Fred Houwen "Tour de Force or a Little Local Turbulence? A Heretical View on the Airtours Judgment" 24 *E.C.L.Rev.* 2003, 193, 196.
[126] See Andrew Scott "'Winter Talk by the Fireside?': Tacit Collusion and the Airtours Case" *J.B.L.* 2003, 298, 310.
[127] See Kenneth R. Logan, Ethan E. Litwin and Olivier N. Antoine "Two Comments: Is 'Fast Track' Judicial Review Fast Enough? Are There, Based on the US Experience, Land Mines in the Modernisation Proposal?" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2002, 115, 120-122.
[128] Brandenburger and Janssens *op.cit.*84, 181.

review all the Commission's decisions under the Regulation. On the other hand, the law provides the Commission with authority to decide in its own discretion on all issues relating to the application of the Regulation. Thus, it is crucial for the effectiveness of EC merger control the Court to exercise its authority without undermining the authority of the Commission.

The increased involvement of the Court in merger enforcement can have both positive and negative effects.

The positive effects include the provision of an independent check of the exercise of the Commission's discretion under the ECMR. The Commission reviews every year hundreds of cross-border European mergers that have significant impact on the European industry and economy. Given the number and importance of the examined cases and the wide Commission's discretion in investigations and decision-making, it is necessary for the existence of effective judicial review that will check how this discretion is exercised. The judicial involvement in merger control until recently was relatively rare focusing mostly on clarifying legal issues but the CFI's decisions in *Airtours*, *Schneider*, *Tetra Laval* and *Babyliss* showed that there was need also for a full check of the Commission's decisions under the Regulation including the economic assessments. Thus, increased Court involvement in EC merger control will help protect better firms from errors committed by the Commission in the competitive assessment and at the same time will force the Commission to work harder with the competitive assessments in order to avoid errors that would harm firms[129].

Another positive effect from increased Court's involvement would be the provision of solution to difficult legal issues which the Commission itself could not solve for various reasons. Thus the strict language of the old dominance test of the ECMR raised barriers to the application of that test to oligopolies and it was only the involvement of the Court that fully settled the issue[130]. Similarly under the new substantive test of the ECMR, the Court may again be called to settle legal issues concerning the new unilateral effects doctrine. In any case, the increased involvement of the Court increases legal certainty in EC merger control.

[129] According to some views the CFI's decisions in *Airtours*, *Schneider* and *Tetra Laval* were the main reason behind the Commission's decision not to oppose the *Carnival/P&O Princes* (Case COMP/M.2706 decision of July 24, 2002) merger. On the issue see Logan *et al op.cit.*127, 119.

[130] The Court's decisions in *France Republic v. Commission (Kali&Salz)* (Joint Cases C-68/94 and 30/95 [1998] ECR I-1375), *Gencor v. Commission* (Case T-102/96 [1999] ECR II-753, [1999] 4 CMLR 971) and *Airtours* above dealt with the application of the market test of ECMR in oligopolies.

Regarding economic assessments, which have been the biggest source of controversy, the Court's involvement can be positive only if it can correct manifest errors in the Commission's assessments otherwise there is increased risk of negative effects in the application of merger control. This will be so due to the nature of economic assessments, which belong to an area that is beyond legal analysis. While legal analysis focuses on the application of law to the facts, economic analysis concerns the fact-finding process, which in merger control involves use of economic theories and econometrics. The Court, by checking the Commission's fact-finding process, acts as an economic expert and finally comes up with a second decision potentially different from that of the Commission concerning the competitive effects of the merger. Such an approach though does not safeguard more reliable merger control because it is questionable whether the Court has sufficient economic expertise or the resources to provide more reliable competitive assessments given the Commission's extensive involvement in merger analysis and its highly specialised staff, which includes prominent and experienced economists[131]. In addition to the above, the nature of the competitive assessment, as a difficult analysis of complex market conditions, raises additional barriers to the Court's ability to act as an economic expert overshadowing the Commission. Thus, the final result of the frequent Court's interference with economic assessments would be the issue of two different decisions on the competitive effects of the same merger, a situation that could result in confusion and legal uncertainty. Also in that way, the Commission's authority, under which the large majority of mergers under the ECMR are dealt with as opposed to the very limited number that is reviewed also by the Court following an appeal by the parties, would be undermined, thus shaking the credibility of the entire EC merger control system.

For these reasons, it is submitted that while the Court cannot be barred from exercising its authority in merger cases whenever it deems it necessary, it should nevertheless refrain from interfering with economic assessments when there are no manifest errors in the Commission's assessments. Of course what constitutes a manifest error justifying the Court's involvement this is an issue of interpretation but the general idea should be that this involvement should not take such a form as to

[131] For a good analysis of the role of European Court as an economic expert and the consequences for EC merger control see David J. Gerber "Courts as Economic Experts in European Merger Law" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2003, 475.

challenge the Commission's authority under the ECMR. However it seems that the Court itself is aware of the risk its decisions to be mistakenly considered as substitute to those of the Commission, thus undermining the latter's authority and therefore in certain more recent decisions have sought to address these concerns. In particular, in *Petrolessence v. Commission*[132] the CFI stated: "...review by the Community Courts of complex economic assessments made by the Commission in exercising the discretion conferred on it by Regulation No 4064/89 must be limited to ensuring compliance with the rules of procedure and the statement of reasons, as well as the substantive accuracy of the facts, the absence of manifest errors of assessment and of any misuse of power. In particular, it is not for the Court of First Instance to substitute its own economic assessment for that of the Commission".

However, the Commission from its side should also take all measures to ensure that its economic assessments are well founded and that there are no obvious reasons forcing the Court to interfere. Also, the Commission should take all measures to ensure that the parties' rights of defence are observed during the proceedings in compliance with the Article 6 of the European Convention for the Protection of Human Rights and Fundamental Freedoms, which provides for a fair trial and public hearing within a reasonable time by an independent and impartial tribunal. Although the Commission is not a "tribunal" within the meaning of Article 6 since its decisions are subject to a full and independent review by the Community Courts[133], it is nevertheless obliged to respect article 6 in the exercise of its powers. The Commission should pay particular attention to this issue because in certain of its recent decisions that were annulled by the CFI[134], the Court's criticism concerned exactly violation of the parties' rights of defence.

Another issue related to the Court concerns whether the adoption of the US system instead of that currently existing in the EU would be more appropriate to safeguard more transparent and reliable merger control. Under the current EC merger control system the Commission acts as both investigator and decision-making body. In particular, the Commission carries out market investigations on the mergers notified to it under the ECMR and decides whether to approve these mergers or not. The Commission decisions are subject to judicial review following appeal by the

[132]Case T-342/00 *Petrolessence v. Commission* (Judgment of 3/4/2003) [2003] 5 CMLR 9, para.101
[133] This was ruled by the ECJ in *Van Landewijck v. Commission* (Cases C-209 to 215, 218/78 [1980] ECR 3125, [1981] 3 CMLR 134.
[134] See e.g. *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 76

parties[135]. In the judicial review the Court first analyses whether the Commission has followed the rules of due process whilst conducting its control and secondly whether these facts are sufficient to establish the conditions to declare a proposed merger incompatible with the common market[136]. Conversely in the US the Federal agencies (FTC and DOJ) have no power to prohibit the merger on their own but they have to seek a Court order[137]. The Court's involvement has been considered in US as a factor reinforcing transparency and legal certainty in merger control since the Court hearings are open to public while the Court's involvement constitutes an independent check to the acts of competition agencies[138].

However, in reality the US system is not in effect different from the EU one because the Court's involvement is rare and thus, the merger policy in the US is almost exclusively in the hands of competition agencies, as is the case with the Commission in Europe. In particular, all mergers raising no competition concerns, that is, the vast majority of mergers notified to the agencies, can proceed immediately. If the agencies believe that a merger is anticompetitive and threaten to take legal action against the parties to block it, the parties either negotiate a settlement of the case (through what is called a "consent decree") "fixing" the competitive problem or abandon the transaction[139]. Only if the negotiations for settlement fail and the parties do not abandon the merger will the agencies take the case to the Court seeking to obtain a preliminary injunction. In the stage of injunction, the judge decides in summary proceedings, which do not in involve an in depth assessment of the case, whether or not the merger can be completed[140]. That injunction decision is usually accepted by both sides as the final say on the case[141]. Thus, in the US almost no case gets to the stage of full litigation and the Supreme Court has not decided a merger case on the merits since 1974.

From the above references it becomes clear that in the US, like in the EU, the competition agencies play a central and determinative role in merger policy and the

[135] Article 21(2) ECMR

[136] Herwig C.H. Hofmann "Good Governance in European Merger Control: Due Process and Checks and Balances under Review" 24 *E.C.L.Rev.* 2003, 114, 120.

[137] See also in chapter 5.

[138] See Thomas E. Kauper "Merger Control in the United States and the European Union: Some Observations", 74 *St John's L.Rev.* 2000, 305, 314.

[139] *Ibid.*

[140] See Emil Paulis "Checks and Balances in the EU Antitrust Enforcement System" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2002, 381, 393.

[141] *Ibid.*

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Court's involvement is not so important[142]. Therefore it is submitted that there is no actual reason to adopt in the EU the US system, since there are no big differences. Instead, the focus should be on the improvement of the transparency of the Commission's policies and practices and on safeguarding that the parties are given timely access to judicial review.

The issue recently of the Commission guidelines on the assessment of horizontal mergers constitutes a positive step towards improving transparency of the Commission practices under the ECMR. These guidelines along with existing Commission Notices on the relevant market definition and the Notice on the remedies constitute crucial steps and the guidelines on the assessment of vertical and conglomerate mergers, which will be issued in the near future, constitute serious improvements in the area of transparency in EC merger control[143]. In the US such guidelines explaining the agencies decision-making practice in the assessment of merger exist for a long time and the Commission's move to issue such guidelines also in the EU eliminates an existing gap in legislation in the two jurisdictions. Moreover, the reinforcement of the Commission staff with experienced economists and the strengthening of the role of the Hearing Officer constitute additional recent steps to the direction of the improvement of transparency in EC merger control. Lastly, the entry into force, as mentioned above, of fast track procedures in the CFI creates more favourable conditions for the more frequent Court's involvement in the merger review process. For all these reasons, it is submitted, that the current EU system safeguards a satisfactory level of transparency and legal certainty and there is no need for a switch to the US system.

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[142] The available statistics in the US and EU speak for themselves. In 2001 in the US, the FTC and DOJ announced that they were prepared to go to litigation to block an overall 55 mergers. Of these cases the court finally reviewed only 1 case issuing a preliminary injunction. All the other cases were either abandoned or restructured during settlement negotiations between the agencies and the parties. Although in accordance with the US legislation, the settlement agreement in such cases has to gain the approval of the Court to be valid, in reality such an approval is mostly typical. The issue is examined in more detail in chapter 5.

In the EU in 2001 the Commission reviewed 335 merger cases and cleared 299 outright. In the remainder the Commission cleared 28 cases at the end of Phases I and II 23 of which subject to commitments, while it prohibited the remaining 5 transactions, resulting in 3 appeals to the CFI.

[143] These issues will be clarified in the chapters to follow.

CHAPTER 3

Basic stages in merger analysis-The Aluminium industry as a tool of study

3.1 Introduction

Merger analysis comprises three basic stages: the relevant market definition, the assessment of the competitive effects, and the remedies.

Relevant market definition has a product and geographic dimension and seeks to determine the markets which will be significantly affected by the merger. Then, the Commission carries out an analysis and assessment of the competitive effects of the merger in these markets. If the Commission finds that the merger raises competitive concerns, it will prohibit it unless the merging parties propose commitments sufficient to address the Commission's concerns. In all other cases the mergers will be cleared.

The Commission's analytical methodologies during each of the three stages are presented in this chapter. This general presentation will set the basis for the discussion of more complex issues in the chapters to follow.

This chapter includes also a presentation of aluminium industry and of the specific mergers and markets, which will be used by the thesis as tools for studying and analysing the practical application of EC merger control. This chapter provides answers about the reasons that led to this particular selection and preliminary brief references to the competitive issues arising out from the analysis of the specific mergers and markets. The analysis of these markets will take place in the chapters to follow.

3.2 Basic stages in merger analysis

3.2.1. The relevant market definition

According to the Guidelines on the assessment of horizontal mergers, market definition seeks to "identify in a systematic way the immediate competitive constraints facing the merged entity"[1]. The reference to competitive constraints is related to the concept of an "antitrust" market as opposed to an "economic" market. The classical notion of an economic market is thought of as the area in which buyers and sellers of the good come into contact with each other to transact their business[2]. Such a definition however, is not useful for antitrust purposes where the focus is on the firm's ability to exercise market power.

The exercise of market power is harmful to competition and consumers because, amongst others, it leads to less output and higher prices[3]. The relevant antitrust market therefore includes only those products and areas which enable competition authorities to conclude whether the merged entity as a result of the merger will be able to exercise market power or whether it will be constrained by the behaviour of its competitors[4].

A proper market definition is therefore crucial to a valid competitive assessment of the merger. The task, though, is not easy since relevant antitrust markets are artificial constructions which are sensitive to the methodology used for the definition: the application of different methodologies can result in different relevant markets even for the same case[5]. Further, if the relevant markets are defined too narrowly, mergers beneficial to consumers may be blocked, while if the relevant markets are defined too widely, mergers harmful to consumers may be cleared[6]. On the other hand, market definition is closely related to the applicable market test for the competitive assessment [such as dominance, substantial lessening of competition (SLC) and substantial impediment to effective competition (SIEC)[7]] and therefore it is

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[1] Commission Guidelines on the assessment of horizontal mergers [2004] OJ C31/5, at para.10.
[2] See Faull and Nikpay *The EC Law of Competition*, Oxford University Press, 1999, at paras.1.131-1.133.
[3] The Commission Guidelines *op.cit.*1 consider in para.8 market power as the ability of one or more firms "...to profitably increase prices, reduce output, choice or quality of goods and services, diminish innovation, or other wise influence parameters of competition".
[4] See also Faull and Nikpay *op.cit.*2.
[5] The results of the application of different methodologies for defining markets are examined in the analysis of beverage can market in chapter 7 of the thesis. It is shown there that depending on the applicable methodology, the product market definition can result in different relevant markets even for the same case.
[6] A very narrow relevant market would produce very high market share and concentration levels, which could be used by competition authorities as reasons for blocking the merger. Conversely, a very wide relevant market would produce low market share and concentration levels thus reducing the possibility the merger to be blocked. In the case of excessively narrow markets, the market power of the firms is overstated, while in the case of excessively wide markets the market power is understated (see also Alistair Lindsay, *The EC Merger Regulation: Substantive Issues*, Sweet & Maxwell, 2003, at 2.01).
[7] The "dominance" or the "substantial-lessening-to-competition" (SLC) tests are the legal standards against which the mergers are judged. The dominance test is prominent in EC merger control, while the SLC is used in USA, Australia and UK. The content of dominance and the SLC tests as well as of the new European SIEC test is explained in detail below and in subsequent chapters of the thesis.

often designed to facilitate the application of that test[8]. If one adds to the above the fact that there is no widely accepted and completely reliable model for properly defining the relevant markets, then the task of the definition becomes often controversial.

The Commission being aware of the difficulties associated with market definition published in 1997 a Notice on the definition of the relevant market for the purposes of Community law[9] providing guidance about its policies and methodologies concerning market definition. The Notice reflects the Commission's established practice and the case law of the ECJ.

The Notice refers to the product and geographic dimension of the relevant market and defines the former as follows:

"A relevant product market comprises all those products and/or services in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas"[10].

The geographic market is defined as follows:

"Geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of relevant products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from the neighbouring geographic areas because, in particular, conditions of competition are appreciably different in those areas"[11].

The above definitions are not very precise and do not contain the operational mechanism by which the relevant market is to be defined. They only contain general legal principles on which the definition of the product and geographic market will be based[12]. From the Commission's practice it could be inferred that product market comprises those products that are substitutable for the consumers with the substitution being determined with reference to the characteristics of the product, its use, and its price. For geographic market, homogeneity of the competitive conditions is the central issue for which a number of criteria, such as the distribution of market shares in

[8] The Commission has sometimes been criticised for allegedly seeking to define narrow relevant markets that will produce substantial market shares, which are very important for establishing market dominance (see also D.G.Goyder, *EC Competition Law,* (4th Ed)., 2003, at p.354. However, such an approach if true is not consistent with a merger analysis based solely on market conditions, as required by the Merger Regulation and particularly, Article 2 thereof. This criticism will be examined in more details in subsequent thesis's chapters.
[9] [1997] OJ C372/5, [1998] 4 CMLR 177.
[10] Para.7 of the Notice. This definition is based on the case law developed by the ECJ in the *Hoffman-La Roche* case (Case 85/76 *Hoffman-La Roche & Co AG v. Commission* [1979] ECR 461; [1979] 3 CMLR 211).
[11] *Ibid.* para.8. This definition was given by the ECJ in the *United Brands* case (Case 27/76 *United Brands v. Commission* [1978] ECR 207; [1978] 1 CMLR 429.
[12] See also E. Navarro, A. Font, J. Folguera and J. Briones, *Merger Control in the EU,* Oxford University Press, 2002, at 5.11.

different areas, the existence of entry barriers, and the price levels in different areas, are amongst those taken into account in the definition.

Further, since the focus is on the competitive constraints, the Notice recognises three such constraints: demand substitution, supply substitution, and potential competition.

Demand substitution determines the range of products, which are viewed as substitutes by the consumers[13]. The Commission's practice is to rely largely on the SSNIP test[14] for determining the level of demand substitution. This test seeks to trace the consumers' response to a hypothetical small but permanent price increase (usually of 5%-10%) imposed on the product or area in question[15]. If consumers switch to other products or areas in sufficient numbers to render the price increase unprofitable, then additional products and areas will be included in the test. This process will continue until a set of products or areas is found where the hypothetical price increase is profitable. This set will constitute the relevant product or geographic market[16]. Demand substitution is in the centre of market definition in merger cases.

Supply substitution refers to the possibility of an undertaking, which does not currently sell the product or in the area in question, to start selling in the short term that product or in that area, without having to incur significant costs, in case of a hypothetical price increase[17]. Supply substitution is taken into account only when its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy[18]. However, the Commission does not usually take into account supply substitution when defining the market, although it will form part of the subsequent analysis of potential competition[19].

Potential competition concerns the possibility of reaction by neighbouring product or geographic markets in case of higher prices in the base market. Such a reaction, compared with supply substitution, takes more time to occur, while it may be associated with significant costs. However, the boundaries between supply

[13] Para.15 of the Notice on market definition.
[14] *Ibid.*
[15] *Ibid.* para.17.
[16] For more information about the SSNIP test see Pietro Crocioni "The Hypothetical Monopolist Test: What it Can and Cannot Tell you" 23 *E.C.L.Rev.*, 2002, 354. The application of this test is discussed also in other chapters of the thesis.
[17] See paras.20-23 of the Notice.
[18] Para 20 *ibid.*
[19] *Ibid.* Para 23. Supply-substitutability is not taken into account in the market definition when it is associated with switching costs and long lead time. In such cases supply-substitution is examined at a later stage in the competitive assessment.

substitution and potential competition are not always clear, while the Commission's Notice states that potential competition will not be taken into account in market definition but will be examined in the analysis of the competitive effects of the merger along with entry[20].

The evidence that the Commission uses to assess the extent to which substitution will take place is both quantitative and qualitative and its use depends on issues of availability and the features and conditions of the specific markets[21]. However, the Notice does not refer to the level of substitutability which would be required to meet the standard. From the Commission's practice it can be inferred that complete substitutability is not required. Unless the products are totally homogeneous there will be no perfect substitutes[22]. Further, due to the increasing importance of SSNIP test in market definition it seems that all the types of evidence mentioned in the Notice are often used only to help tracing consumer reaction to a hypothetical price increase[23]. Lastly, given that merger analysis examines the competitive effects likely to arise in the future, the Commission is required to emphasise criteria such as time horizon and, concerning geographic market definition, to pay particular attention to issues of market integration in the territory of EU[24].

The list of evidence about product market includes[25] amongst others functional interchangeability, uses and characteristics of products, evidence of substitution in the recent past, quantitative tests specifically designed for the purpose of defining markets (cross-price elasticities, price correlation etc), views of customers and competitors, consumer preferences, switching costs, and price discrimination between different categories of customers.

In respect of geographic market, the relevant list includes[26] past evidence of diversion of orders to other areas, views of customers and competitors, current geographic patterns of purchases, trade flows/pattern of shipments, local barriers and switching costs.

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[20] Para.24 of the Notice.
[21] *Ibid.* paras. 36-52.
[22] Alison Jones and Brenda Sufrin, *EC Competition Law*,(2nd Ed.) Oxford, 2004, at p.53.
[23] *Ibid.* at p.43.
[24] See also "Market Definitions in the Media Sector. Comparative Analysis", October 2003, published on the website of the DG Competition of the European Commission, at 1.53.
[25] See in paras.36-43 of the Notice on market definition.
[26] *Ibid.* paras.44-52.

The Commission's practice when defining product markets[27] is to start, on the basis of preliminary information, with the establishment of a broad market or a number of markets within which the competitive constraints of the merging firms will be assessed. Then, the Commission, after carrying out a more in-depth investigation and analysis, will be able to determine between few alternative product markets the one, which will be the relevant product market.

Similarly, concerning geographic market definition, the Commission will start[28] with a preliminary definition on the basis of broad indications about the distribution of market shares of the parties and their competitors as well as preliminary analysis of pricing and price differences at national and EU or EEA level. Then, using available evidence, the Commission will proceed with a more detailed analysis, which will help it to conclude on the specific market, which will become the relevant geographic market.

The task of defining markets is crucial for the final outcome of the competitive assessment, but, nevertheless, its role should not be overestimated, since competition authorities have the means of correcting errors made in the market definition. For instance, if the market has been defined too narrowly, thus excluding neighbouring products or areas exercising significant constraining influence, the Commission has the opportunity to take these products and areas into account in the competitive assessment through the analysis of entry. The most important thing is therefore for competition authorities to ensure that their final decision on the merger takes into account all the factors constraining the merging firms[29]. However, a proper market definition constitutes a big step in that direction.

The role of market definition was well summarised by EU Commissioner for competition Monti:

"..."[M]arket definition is a cornerstone of competition policy, but not the entire building. Market definition is a tool for the competitive assessment, not a substitute for it. What is ultimately important is to understand the nature of the competitive situation facing the firms involved...in a proposed merger. The market definition is the first -and very important- step in the analysis"[30].

3.2.2 The competitive assessment

[27] *Ibid.* paras.25-27.
[28] *Ibid.* paras.28-32.
[29] On the issue see also Faull and Nikpay *op.cit.*2, at 1.144-1.145.
[30] Mario Monti "Market Definition as a Cornerstone of EU Competition Policy", Speech in Workshop on Market Definition, Helsinki, October 5, 2001

The competitive assessment of the merger follows market definition. The Commission compares the competitive conditions expected to result from the notified merger with the conditions that would have prevailed without the merger to find whether the merger is compatible with the common market[31]. The legal test of compatibility is in Article 2(2) of the Merger Regulation, which states:

"A concentration which would significantly impede effective competition in the common market or in a substantial part of it, in particular as a result of the creation of strengthening of a dominant position, shall be declared incompatible with the common market".

This test replaced in the latest reforms the dominance test that existed under C.R.4064/89. Under the old test a concentration would be declared incompatible with the common market if it would create a dominant position as a result of which effective competition would be significantly impeded in the common market or in a substantial part of it.

The new test constitutes a shift from market dominance to significant impediment to effective competition ("SIEC"), a concept which however still includes market dominance as the main source of competitive harm. The apparent difference is that it is not the unique source as before. The dominance test has been applied to cases of a dominant position held by a single firm or by more firms (collective dominance) through express or tacit collusion[32]. The new test applies to all the above cases and also to situations of non-collusive oligopolies apparently not covered by the dominance test[33].

The legal concept of a dominant position has been developed in the case law of the ECJ in accordance with Article 82 of the Treaty. According to the Court[34]:

"[A] dominant position...relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers".

According to the above definition, for meeting the legal standard of dominance, it has to be proved that an undertaking has an appreciable influence on the conditions

[31] See para.9 of the Guidelines on the assessment of horizontal mergers.
[32] See also the Press Release of the European Commission of 20 January 2004, "New Merger Regulation Frequently Asked Questions". The issue is discussed in details in other chapters of the thesis.
[33] See also in Recital 25 of C.R.139/2004. This issue is discussed in details in the chapters to follow.
[34] Case 27/76 *United Brands Company and United Brands Continentaal BV v. Commission* [1978] ECR 207, [1978] 1 CMLR 429.

under which competition can develop and is capable of acting largely in disregard of that competition[35].

The competitive assessment of mergers requires economic analysis focusing on the potential increase in market power as a result of the merger and therefore there is also a need to set out the economic parameters of the concept of dominance.

According to the Commission's practice, single-firm dominance relies largely on the dominant-firm economic model, which provides for a firm with large market share -normally above 50%- capable of controlling prices, and a number of smaller competitors, the competitive fringe, with insignificant market power[36]. Market shares, are not the only factor taken into account in merger analysis, but they are nevertheless crucial for establishing single-firm dominance under the Merger Regulation[37].

The concept of collective dominance, as applied by the Commission and confirmed by the ECJ, reflects the economic theories of express and tacit collusion (the so-called coordinated effects), according to which a merger may harm competition by facilitating collusive behaviour between the merging firms and its competitors in order to raise prices above the competitive level[38].

Non-collusive oligopoly, the third category of competitive harm imported by the new test, concerns situations described in economics as unilateral (or non-coordinated) effects. In certain oligopolistic markets mergers involving the elimination of important competitive constraints that the merging firms previously exerted upon each other, along with a reduction as a result of the merger of the competitive pressure on the remaining competitors, may result in higher prices even when there is little likelihood of coordination between the members of the oligopoly[39].

The treatment of unilateral effects in EC merger control before the adoption of the new SIEC test had been controversial. According to some views, the dominance test also covered unilateral effects, while according to others it did not[40]. The Commission had initially supported the former view[41] but since the issue had never

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[35] See also Faull and Nikpay *op.cit.*2, 4.140-4.146.
[36] See also *ibid.* The market of smelter-grade alumina, which is examined in the next chapter of the thesis shows in detail how the Commission's doctrine of single-firm dominance operates.
[37] See also the Guidelines on the assessment of horizontal mergers at para.25.
[38] Important Court cases, which determined the content of the concept of collective dominance include *Kali&Salz* (Cases C-68/94 and 30/95 *France v. Commission* [1998] ECR I-1375, [1998] 4 CMLR 829), *Gencor v. Commission* (Case T-102/96 [1999] ECR II-753, [1999] 4 CMLR 971), and *Airtours v. Commission* (Case T-342/99 [2002] ECR II-2585). The issue is examined in details in other chapters of the thesis.
[39] See also the Commission Guidelines at paras.25-26.
[40] Detailed discussion on the issue is made in chapter 7 of the thesis.
[41] See Mario Monti "Merger Control in the European Union: A Radical Reform", Speech at the European Commission/IBA Conference on EU Merger Control, Brussels, 7 November 2002).

been directly considered by the Community Courts and the situation had caused confusion and legal uncertainty[42] it decided to replace the dominance test with a new test -the SIEC- that would clearly include in its scope unilateral effects[43]. However, the Commission generally considers[44] that compared with the old dominance test the new test is not broader in scope and that its adoption was only due to the need to address the uncertainty about non-collusive oligopolies. In any case, what is absolutely clear is that the substantive test of the ECMR now covers all anticompetitive scenarios resulting from mergers including non-collusive oligopolies[45].

In the competitive assessment, the focus is mostly on horizontal effects even if vertical effects or conglomerate effects are not ignored[46].

The criteria for the assessment are described in Article 2(1)(a)-(b), which requires the Commission to take into account:

a. "the need to maintain and develop effective competition within the common market in view of, amongst other things, the structure of the markets concerned and the actual or potential competition from undertakings located either within or outwith the Community;
b. the market position of the undertakings concerned and the economic and financial power, the alternatives available to suppliers and users, their access to supplies or markets, any legal or other barriers to entry, supply and demand trends for the relevant goods and services, the interests of the intermediate and ultimate consumers, and the development of technical and economic progress provided that it is to the consumer advantage and does not form an obstacle to competition".

In the application of the assessment criteria, the treatment of efficiencies has been controversial. The ECMR does not explicitly refer to efficiencies but the reference in Article 2(1)(b) to "the development of technical and economic progress" has been widely considered as setting the legal basis for such consideration[47]. However, Article 2(1)(b) sets also the condition that the technical and economic progress must "be to consumers' advantage and... not form an obstacle to competition"

[42] The confusion and uncertainty arose out following the CFI decision in *Airtours* (*op.cit.*38) in which issues of collective dominance were examined. The Court's analysis gave the impression that non-collusive oligopolies were not covered by the dominance test. This issue is discussed in chapter 7 of the thesis.
[43] See in Recital 25 of C.R.139/2004.
[44] See e.g. the Commission's Press Release of 20 January 2004, *op.cit.*135.
[45] See also *ibid.*
[46] The large majority of cases examined under the Merger Regulation deal with horizontal effects. This is in accordance with the prevalent economic theories of competitive harm, which consider horizontal mergers as the main source of such harm. However, vertical or conglomerate effects are not ignored either. The Commission in Form CO requires from the notifying parties to provide information also about the vertical effects of their mergers, while conglomerate effects are also examined.
[47] See also Navarro et al. *op.cit.*11, 11.05.

The Commission in practice, even if it has recognised that the Merger Regulation provides for the examination of efficiencies[48], has thus far followed a rather cautious or even hostile policy on the issue. In particular, the Commission has been hesitant in accepting efficiency claims as a rebuttal against a finding of dominance, while in certain cases it has added efficiencies to the factors contributing to market dominance, thus fuelling arguments for the existence of an "efficiency offence" doctrine in European merger control[49].

The cautious Commission's treatment of efficiencies under the dominance test could be justified in the light of the dominance doctrine and the economic theory. According to the latter, the stronger the anticompetitive effects of the merger, the less likely are the efficiencies to outweigh these effects[50]. The dominance test, by requiring high market shares levels, requires also strong anticompetitive effects otherwise the merger will be cleared. Thus, if such effects are established, proof of overwhelming efficiencies will be required to outweigh them, something which does not facilitate raising a successful efficiency defence.

In any case, even if the Commission, applying the dominance test, has not explicitly cleared a merger on grounds of efficiencies, there is nevertheless certain evidence, that efficiencies have played a role in its competitive assessments[51].

However, the new substantive test of ECMR requires a more systematic approach to efficiencies, because the standard for establishing anticompetitive effects is now lower, which means that efficiencies become more important. In particular, the doctrine of non-collusive oligopolies does not require dominant market shares for establishing anticompetitive effects and thus the existence of moderate efficiencies could in appropriate circumstances outweigh these effects thus justifying the

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[48] According to Commissioner Monti, *op.cit.*41 "Article 2(1)(b) of the Merger Regulation provides a clear legal basis" for taking efficiencies into account.

[49] See Atilano Padilla "The 'Efficiency Offence Doctrine" in European Merger Control", *Antitrust Insights*, NERA Economic Consulting, July/August 2002. Commissioner Monti has denied that such doctrine exists (see Mario Monti *op.cit.*41 ("there is no such a thing as a so-called 'efficiency offence' in EU merger control law and practice".

[50] According to the Guidelines on the assessment of horizontal mergers para.84, it is highly unlikely that a merger leading to a market position approaching that of a monopoly can be declared compatible with the common market on the grounds that efficiency claims would be sufficient to counteract its potential anticompetitive effects.

[51] Cases where efficiencies have been considered include amongst others *Aerospatiale-Alenia/de Havilland* (Case IV/M.53 (1991) [1991] OJ L334/42; [1992] CMLR 778); *Nordic Satellite Distribution* (Case IV/M.490 (1995); [1996] OJ L53/20; [1995] 5 CMLR 258); *Mannesman/Valourec/Ilva* (Case IV/M. 315 [1994] OJ L102/15 [1994]; 4 CMLR 529 (see also Miguel de la Mano "For the Customers' Sake: The Competitive Effects of Efficiencies in European Merger Control", European Commission, Enterprise Directorate-General, Enterprise Papers No 11, 2002, 28-29; Peter Camesasca "The Explicit Efficiency Defence in Merger Control: Does it Make the Difference" 20 *E.C.L.Rev.*, 1999, 14.

According to Richard Whish, the Commission, in the presence of significant efficiencies, may have refrained from establishing a dominant position (see Richard Whish *Competition Law*, (4th Ed.), Butterworths, 2003, 779).

clearance of the merger. The Merger Regulation, therefore, along with a new market test now contains specific reference to efficiencies. In particular, Recital 29 explicitly states that efficiencies will be taken into account in the analysis and that, if they are sufficient to counteract the effects on competition and particularly the potential harm to consumers, the merger will be cleared as compatible with the common market. However, the Commission did not alter Article 2(1)(b), which means that efficiencies will still be covered under the term "technical and economic progress".

Guidance on the criteria and methodologies used by the Commission in the analysis of the competitive effects of mergers and efficiencies is provided in the latest Guidelines on the assessment of horizontal mergers[52]. The document, whose provisions will be analysed in detail in the chapters to follow, is particularly useful for clarifying issues of the Commission's practice and helps to legal certainty. However, the competitive assessment of mergers by focusing on the analysis of complex market conditions remains a difficult task whose results depend on the specific facts of each case and therefore the utility of the Guidelines should not be overestimated.

3.2.3 Remedies

The competitive assessment culminates with either approval or prohibition of the merger. However, the decision approving the merger is often subject to conditions. These are cases where the Commission found that the merger raised competitive concerns but decided to clear it after the merging parties submitted satisfactory commitments aiming at restoring competition.

The Commission's policy concerning commitments was clarified in the Notice on Remedies published on December of 2000[53]. The Notice reflects the Commission's evolving experience with the assessment, acceptance and implementation of remedies under the Merger Regulation, while it was also significantly influenced by a study on the divestiture process published in 1999 by the US Federal Trade Commission ("FTC")[54]. The latter study included an evaluation of the success of divestitures ordered by the FTC from 1990 through 1994. This *ex post* evaluation of divestitures

[52] See paras.76-88 of the Guidelines.

[53] Notice on Remedies acceptable under Council regulation (EEC) No 4064/89 and under Commission Regulation (EC) No 447/98, [2001] OJ C68/3 ("Notice on Remedies"). Following the adoption of a new substantive test in ECMR a new Notice on Remedies should be expected in the near future/

[54] The text of the study is available on the website of FTC, www.ftc.gov

revealed problems and inadequacies, which helped in improving the methods and policies of competition agencies about remedies.

The Commission's practice in analysing the proposed remedies could be summarised as follows[55]:

a. The Commission first examines whether these remedies eliminate clearly and on a permanent basis the competitive problem identified by it in its analysis of the merger[56]. In this context the Commission normally examines every aspect of the merger including the structure and the special characteristics of the relevant markets[57];

b. The Commission then looks to whether these remedies can be implemented effectively and within a short period[58]; and

c. The Commission prefers remedies not requiring monitoring once they have been implemented[59].

In respect of remedies types, the Commission shows strong preference towards structural remedies, which are considered as more appropriate to restore competition[60]. Structural remedies refer to the sale of assets and are more appropriate to restore competition because they can immediately alter the market structure by eliminating horizontal overlaps, while they do not require the adoption of monitoring measures[61].

Conversely, behavioural remedies, such as the promise not to abuse a dominant position created as a result of the merger, will generally not be accepted by the Commission[62].

In any case, the ultimate issue in the examination of remedies is whether they are capable of rendering the merger compatible with the common market, and in this context all available solutions will be thoroughly examined[63]. If the available

[55] See also Lindsay *op.cit.*6, 9.03.
[56] According to para.6 of the Notice on remedies the parties must show clearly that the remedy restores conditions of effective competition in the common market on a permanent basis.
[57] See also Goyder, *op.cit.*8,.383.
[58] Para.10 of the Notice.
[59] *Ibid.*
[60] This preference is in accordance with the CFI decision in *Gencor v. Commission* (Case T-102/96 [1999] ECR II-753, para.316) where a principle was established that the basic aim of commitments is to ensure competitive market structures. See also para.9 of the Notice.
[61] See also para.9 of the Notice.
[62] See also *ibid.* A relatively rare case where the Commission accepted commitments of behavioural nature was that of *SEB/Moulinex* (Case IV/M.2621, Decision of 8/1/2002) where the Commission considered that the trade mark licensing was sufficient to restore competition and did not order any structural remedies. The CFI, which examined the case following an appeal by an interested third party, upheld the Commission's decision stressing that it is not so important the remedy type as it is to ensure that the selected remedy fully eliminates the competitive concerns,(Case T-114/02 *Babyliss SA v. Commission* [2003] ECR II-1279; [2004] 5 CMLR 1, para.170).
[63] *Ibid.* See also Jones and Sufrin *op.cit.*22, 982.

remedies are not sufficient to eliminate the identified competition problems and thus to render the merger compatible with the common market, then the merger will be prohibited[64].

However, the Commission cannot impose remedies but decides on the basis of the proposals submitted by the parties. It is the responsibility of the parties to show that the proposed remedies are sufficient to fully eliminate the competitive problem[65].

3.3. Aluminium industry as a tool of study and analysis of competitive issues-mergers and markets to be examined in the thesis

The aluminium industry is huge and strategically important. Aluminium products can be found almost everywhere: from the construction of space vehicles and cars to the production of beverage cans and food containers. This shows the significance of the industry for the global economy.

Aluminium metal results from a complex and costly process. Alumina, the critical raw material, is produced from bauxite ore. Bauxite occurs naturally in the earth and is extracted from open-cast mines. The refining of alumina takes place in refineries located close to bauxite mines. Then, alumina is shipped to aluminium smelters where it is used through an energy-intensive process to form the aluminium metal. The aluminium produced is *primary aluminium*, which is then subject to further fabrication and turns into various semi-finished and finished products such as sheets, plates, foils and cables[66].

Primary aluminium constitutes the basic product of the industry and its prices at the global level are largely determined in the transactions of the London Metal Exchange (LME).

The aluminium industry comprises numerous markets some of which are concentrated, while some others not. This thesis has selected three past merger decisions of the European Commission involving firms acting in the aluminium markets to use them as tools for studying the effectiveness of EC merger control. These mergers are *Alcoa/Reynolds*[67], *Rexam/American National Can* (*"ANC"*)[68], and

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[64] Para.31 of the Notice.
[65] See para.6 of the Notice on remedies.
[66] More information about the production process of aluminium and the various product markets can be found on the website of International Aluminium Institute, www.world-aluminium.org
[67] Case COMP/M.1693, OJ L58 [2002] 5 CMLR 475.
[68] Case IV/M.1939, Decision of 19 July 2000.

Schmalbach-Lubeca/Rexam[69]. However, the analysis does not cover all the markets examined by the Commission in these mergers but only those giving rise to the specific issues targeted by the thesis. The final list of markets to be analysed includes ***smelter-grade alumina ("SGA")*** (*Alcoa/Reynolds*), ***primary aluminium*** (*Alcoa/Reynolds*), and ***beverage cans*** (*Rexam/ANC* and *Schmalbach-Lubeca/Rexam*).

The method and structure of the analysis followed by the thesis for each of these markets is different due to the existence of different characteristics in each case.

The analysis of the SGA market is split in two parts, due to the existence of two decisions about this market, one of the European Commission and one of the US competition authorities.

The first part, which is dealt with in chapter 4, deals with the analysis of the Commission's decision and includes also the presentation of the results of the market research carried out by the thesis. These results are compared with those of the Commission and discussion on the competitive issues takes place. The second part, which is included in chapter 5, deals with the analysis of the US decision. In this case, the comparison is mostly between the US and the European decisions as well as between the frameworks of merger control in the two jurisdictions. The results of the market research of the thesis are also used to clarify market issues.

Concerning *primary aluminium*, that market was not examined either by the Commission or the US DOJ in the context of the review of *Alcoa/Reynolds* merger, possibly because the combined market share of the parties in that market was very low. However, the thesis's investigation disclosed interesting evidence, which is sufficient for discussing vertical aspects of mergers and particularly, raising-rivals'-costs strategies. Thus, primary aluminium is included in chapter 6 of the thesis, while the analysis and discussion is based on market evidence collected by the thesis and with references to both the European and the US approaches concerning vertical aspects of mergers.

In respect of the *beverage can* market, the analysis is based on the Commission's decisions in *Rexam/ANC* and *Schmalbach-Lubeca/Rexam* and takes place in chapter 7. The two cases are interrelated since *Schmalbach-Lubeca/Rexam* refers to the acquisition by Schmalbach-Lubeca of Rexam's assets, which the latter was forced by the Commission to sell for gaining approval of its merger with ANC. In these two

[69] Case IV/M.2542, Decision of 28 Sept. 2001.

cases the Commission's findings are compared with those of the thesis's market investigation and discussion on the competitive issues also takes place.

A brief presentation of all the selected markets along with reference to the specific issues to be examined in each of them follows below:

3.3.1 The markets of smelter-grade alumina ("SGA") and primary aluminium

SGA and primary aluminium are interlinked. Primary aluminium is the basic product of aluminium industry with SGA being the critical raw material used for its production. Similarly, the unique use of SGA is for the production of aluminium.

The SGA market

SGA was one of the markets of concern in *Alcoa/Reynolds*, a merger following the acquisition of the US company Reynolds Metals by the also US company Alcoa. EU and US competition authorities both examined the deal.

The European Commission concluded that the merger would give rise to a dominant position of Alcoa in the market of "merchant SGA", which excluded SGA for captive use by integrated firms. The relevant geographic market according to the Commission included only the Western world excluding countries of the former Eastern block.

This thesis in analysing the Commission's decision focuses first on the "merchant sales" rule, which is often applied by the Commission in market definitions and results in narrow relevant markets. In respect of the geographic market definition in this case, the thesis discusses also the relationship between globalisation and geographic market definitions in merger control.

Further the Commission's analysis included dynamic competition considerations, such as the strategic use of idle SGA capacity by Alcoa to reinforce its dominant position. The thesis uses the opportunity to demonstrate the utility of dynamic merger analysis.

Also, the Commission's analysis by establishing only single-firm dominance in this case ignored the risks of collusion, which also existed in the SGA market, as clearly recognised by the US decision. The thesis uses the opportunity to discuss potential inadequacies of the European doctrine of collective dominance, when dealing with broad oligopolies.

Lastly, the Commission's decision on the remedies in this case was not, in the thesis's view, completely satisfactory. The firm, which was finally selected to acquire a crucial refinery of Reynolds, did not seem to meet the requirements of an upfront buyer. The thesis uses the opportunity to discuss issues of proper remedy selection and application.

On the other hand, the US decision found both unilateral and coordinated effects in *Alcoa/Reynolds*. The US decision also defined a broader relevant product and geographic market. The thesis uses the opportunity to compare the unilateral and coordinated effects' doctrines in the EU and the US, as well as the frameworks of merger analysis in the two jurisdictions.

The market for primary aluminium

In respect of the primary aluminium market, which was not examined by either competition authority in the context of *Alcoa/Reynolds* review, the thesis uses it to discuss vertical aspects of mergers, and in particular the raising-rivals'-costs theories.

The thesis also compares the European and US policies with respect to vertical aspects of mergers and discusses the utility of safe harbours in merger control.

3.3.2 The market of beverage cans

The market of beverage cans is part of the beverage packaging market, which in turn is part of consumer packaging. Beverage packaging includes mainly aluminium and steel cans, glass and plastic bottles, and paper. All these materials compete against each other for market shares.

Beverage cans constitute the biggest of the downstream aluminium markets and along with aluminium foil, which is used widely for food wrapping, constitutes the aluminium-packaging sector[70]. The biggest rival of aluminium cans are steel cans.

The mergers examined in the thesis are those of *Rexam/ANC* and *Schmalbach-Lubeca/Rexam*. As explained above, the two cases are interlinked since the latter case

[70] See Paul Solman "European Can Take-up Advances" in FT Survey: *Aluminium 2000*, Oct. 25, 2000.

refers to the acquisition of assets sold by Rexam for gaining the approval of the Commission for its merger with ANC.

In *Rexam/ANC* the Commission's investigation concluded that the merger would create a duopoly by the merged entity and its immediate competitor Continental Can Europe (Schmalbach-Lubeca) in the beverage can market of North Europe and single firm dominant position in the same market of South Europe.

This decision raised a number of issues:

First, the relevant product market included aluminium and steel cans and excluded plastic (PET) and glass bottles. The thesis uses the opportunity to discuss market definition when differentiated products are involved.

Further, the Commission's decision on the duopoly raises the issue of the outer boundaries of collective dominance with respect to tacit collusion. In particular, the Commission established duopoly in a market where only three competitors would remain post-merger. The thesis discusses whether the third firm could have also been included to the collusive oligopoly, thus forming a collective dominance by three firms.

The number of the remaining competitors, only three, in this case helps also discussing the potential application of the non-collusive oligopoly test.

Further, in *Schmalbach-Lubeca/Rexam*, the Commission approved the sale of Rexam's assets to Schmalbach-Lubeca. In *Rexam/ANC* the Commission had ordered these assets to be sold to prevent the creation of the duopoly between Rexam and Continental Can Europe, the old name of Schmalbach-Lubeca. The thesis discusses whether it is an appropriate remedy to break a duopoly by selling assets from the one duopolist to the other.

Lastly, other issues examined by the thesis in this case include buyer power and price discrimination, while the theories of "mavericks" which refer to firms capable of preventing the establishment of collusion in oligopolistic markets, are also extensively discussed.

CHAPTER 4

The market for smelter-grade alumina (SGA) in the Alcoa/Reynolds decision

4.1 Introduction

The market of smelter-grade alumina (SGA) was examined in the Commission's *Alcoa/Reynolds*[1] decision. The merger was notified to the Commission on 18 November 1999. By decision dated 20 December 1999, the Commission opened a Phase-II investigation, which culminated with a decision clearing the merger subject to conditions on May 3, 2000. The decision identified competitive concerns in three markets, but the thesis focuses on SGA where the Commission found that the merger would result in a dominant position by the merged entity.

The *Alcoa/Reynolds* merger gave rise to a number of issues relevant to the objectives of this thesis. More specifically, the definition of a narrow product market ("merchant SGA market" excluding captive SGA production) and of a narrow geographic market ("western world" excluding countries of Eastern Europe, countries of the former Soviet Union and China) illustrate the issue of "narrow" or "broad" relevant markets and their impact on competitive assessments in merger control. Further, the SGA market apart from issues of single dominance raises also issues of coordinated effects. Although the Commission did not refer to such effects, the US decision, which analysed the same market in the same merger found such effects. The SGA market is, therefore, a good illustration of the limitations of the old dominance test of the ECMR and the need for the adoption of a broader test, such as the SIEC, which is the new substantive test of the ECMR. It also provides a means for comparing the EU and the US substantive merger-control systems and their application.

[1] Case COMP/M.1693,Decision of 3 May 2000.

Moreover, the Commission's analysis in SGA involved dynamic competition considerations by reference to Alcoa's ability to act strategically against its competitors. The US analysis of coordinated effects referred to the possibility that Reynolds was pre-merger the market's maverick, a concept also related to dynamic analysis of mergers. By presenting the SGA market, therefore, the thesis intends to show the advantages of dynamic merger analysis over static analysis, which is based on structural features, such as market shares and concentration, and regarding oligopolies on checklists.

Lastly, in respect of remedies, the Commission's divestiture decision and its implementation in *Alcoa/Reynolds* raised certain questions about its effectiveness, which allows for general discussion of the Commission's policies concerning remedies in the context of EC merger control.

This chapter contains the analysis of the EU decision. The analysis of the US decision is dealt with in the next chapter.

4.2 The relevant product market

Smelter-grade alumina (SGA) was the relevant product market[2]. For coming to this conclusion the Commission followed a three-stage analysis.

First, alumina was defined as a distinct market by reference to previous case law[3].

Second, the Commission examined smelter-grade alumina (SGA) and chemical-grade alumina (CGA), the two basic alumina types, and found these products were in separate markets by reasons of supply substitutability: the two products derive from the same four-stage production process, which results in the production of SGA used in the smelting of aluminium metal. CGA is an intermediary product of the SGA production process and is used in chemical applications. Switch of CGA production towards SGA is difficult because it requires the installation of additional equipment. Moreover CGA may cost twice as much as SGA and thus a shift of production towards SGA may result in an economic penalty. The Commission's investigation brought up no historical evidence that CGA capacity had ever been shifted in

[2] Paras.9-17 of the decision.
[3] The Commission referred to *Gencor/Shell*, Decision of 29 August 1994 (OJ C271, 29.9.1994 p. 3) and *Alcoa/Inespal*, Decision of 24 October 1997 (OJ C29, 27.1.1998, p.7).

significant quantities to make SGA. Moreover, the two products did not have the same end uses.

Third, the Commission concluded that the relevant product market should include only SGA sold to third parties ("merchant" or "surplus" SGA) and exclude SGA used internally by integrated firms[4]. The basic Commission's argument was that internally (or "captively") used SGA could not be made available to buyers on the merchant market even if SGA prices were to increase significantly.

Integrated firms would never divert production of SGA away from their own captive use because in such a case their smelters would run at less than full capacity, which would result in a non-recoupable cost penalty. Aluminium sells at roughly eight times the price of SGA and the Commission's investigation found that the cost of diversion for integrated firms was always higher than the possible benefits obtained from increased SGA sales. The Commission's investigation also found that during times of tight SGA supply there were no instances where any integrated manufacturer shifted supply away from its captive use in favour of the merchant market. As a result, the Commission excluded captively-used SGA from the relevant market.

The Commission examined also the parties' allegation that regarding merchant market, which comprises spot sales as well as medium and long-term contracts, long-term SGA contracts (duration of between 5-20 years) should be excluded because these arrangements made enormous quantities of alumina unavailable to third parties.

The Commission, rejecting the allegation, argued that long-term alumina contracts did not insulate buyers or sellers from industry price fluctuations because a large amount of price flexibility was built into these contracts. It stressed the dependence of SGA prices upon aluminium prices in the London Metal Exchange ("LME") and that announcements of reductions or restarts in aluminium production affected also the SGA prices. The Commission also referred to the fact that around 40% of all medium and long-term contracts contained put/call clauses linked to LME and annual price renegotiations, which meant that the prices of these contracts were influenced by the developments in the merchant market. Thus, the Commission included long-term SGA contracts in the relevant product market.

[4] Integrated firms, as will be explained in details below, are firms which use their SGA production in their smelters to produce aluminium metal. Thus, these firms do not sell SGA in the open SGA market or sell there only the part of their SGA production that exceeds the needs of their smelters. The SGA finally sold in the merchant market in such cases is called "surplus" SGA.

4.2.1 Captive sales and market definition: some observations

The treatment of captive sales is the basic issue concerning product market definition here.

The issue has practical importance, since the inclusion of captive sales in the product market expands that market, while the exclusion makes it narrower and this obviously affects the calculation of market shares, a major indicator of market power. The treatment of captive sales affects also the decision on the remedies, which in turn may also have competitive impact on closely related upstream or downstream markets, as will be explained in chapter 6 of the thesis.

The Commission's traditional approach is to exclude captive sales from the relevant market. However, there are indications that this approach may change.

In more detail, in *Mitsui/CVRD/Caemi*[5] the Commission explained its view for the distinction between "captive" sales and "merchant" sales, as follows:

> "[O]nly 'merchant' sales appropriately reflect the actual market power of those suppliers active on the merchant market, because 'captive' sales correspond to quantities which are not really put on the market, which are not available for non-integrated...producers and for which no real competition takes place".

Similar reasoning, namely the lack of availability to buyers in the merchant market, was followed, as shown above, for the exclusion of captive SGA from the relevant product market in *Alcoa/Reynolds*.

The string of similar Commission's decisions includes[6] amongst others, *Mannesmann/Boge*[7] *Accor/Wagon Lits*[8], *UnileverFrance/Ortiz Miko II*[9] and recently *Shell/DEA*[10].

In the latter case[11], the Commission not only excluded "captive sales" from the relevant market of ethylene, but also went on to the definition of a "net merchant market" for ethylene. The latter market did not include "merchant market" purchases made by suppliers in the merchant market. Also, in that case the Commission, as with SGA, included in a single market spot sales and long-term agreements.

[5] Case IV/M.2420 Decision of 30/10/2001.
[6] See also Thomas Kauper "The Problem of Market Definition Under EC Competition Law" 20 *Fordham Int'l Law Journal*, 1997, 1682, 1749-1750.
[7] OJ C 215/08, 1991.
[8] Commission Decision No. 92/385/EEC, OJ L204/1, 1992.
[9] OJ C55/05, 1994.
[10] Case COMP/M. 2389, [2001] OJ C202/18 (CEC).
[11] See also Simon Baker "The Treatment of Captive Sales in Market Definition: Rules or Reason" 24 *E.C.L.Rev.* 2003, 161.

However, exceptions to the rule on captive sales were found in more recent cases, one of which was *UCB/Solutia*[12]. The relevant product market was that of polyester resins for powder-coating ("PE PCR") and the Commission found that some PE PCR suppliers were vertically integrated downstream and that they were not selling their production on the free market. Although the Commission recognised that in such circumstances it usually restricts its assessment to the free market, it went on to say that in that case, "...the competitive pressure exerted by the vertically integrated suppliers downstream should be taken into account for assessing the PE PCR markets" and that "...the coating products of these suppliers are in direct competition with those of the polyester powder coatings manufacturers who buy on the merchant market".

The Commission further explained:

"As resins represent half of the production costs of polyester powder coatings, the cost of PE PCR has a large impact on the competition in the polyester powder coatings market and therefore on the demand for PE PCR. This implies that internal sales of vertically integrated PE PCR suppliers should be considered to have a restraining effect on the behaviour of the suppliers selling on the merchant market".

This policy change by the Commission may be attributed to the CFI's decision in *Schneider Electric v. Commission*[13]. In that case the CFI analysed the market for electrical distribution panels where there were in existence vertically integrated suppliers and others that were not. The Commission following its standard policy had excluded captive sales by vertically integrated suppliers from the relevant market, but the Court found that the two categories of suppliers were in fact competing with each other either directly or indirectly. Thus, the Commission's definition, by excluding captive production, had under-estimated the market power of vertically integrated suppliers and had over-estimated the market power of non-vertically integrated ones.

In the US a more flexible approach is followed on the issue. The 1984 Merger Guidelines, which still apply to vertical mergers, reads: "Captive production and consumption of the relevant product by vertically integrated firms are part of the overall market's supply and demand"[14]. Under the 1992 Horizontal Merger

[12] Case COMP/M.3060 (Decision of 31-01-2003). Also in *ADM/VDBO* (Case COMP/M.3188, Decision of 31/07/2003) the treatment of captive sales was not solved at the stage of the market definition but in the calculation of market shares. In particular, in the market of bulk refined seed oil, the Commission took both captive and merchant markets in the calculation of market shares because all the main players in the market were characterised by high level of vertical integration and also because captive and merchant markets were highly dependent at that stage of industry development.

[13] Case T-310/01 *Schneider Electric v. Commission* [2002] ECR II-4071, [2003] 4 CMLR 768.

[14] § 2.23. It is further explained that "[Vertically integrated firms] may respond to an increase in the price of the relevant product in either of two ways. They may begin selling the relevant product or, alternatively, they may

Guidelines, the issue of the treatment of captive production does not arise at the stage of the relevant market definition, but at the stage where firms selling in the relevant market are identified[15]. Vertically integrated firms are included..."to the extent that such inclusion accurately reflects their competitive significance in the relevant market prior to the merger"[16].

The practice followed by US agencies when applying this provision is to examine whether and to what extent, captive producers are likely to exert a competitive impact on the relevant market, either by selling the relevant product or by increasing production of both the relevant product and downstream products[17].

This will not necessarily lead to the inclusion of captive production in all cases. If for instance, an integrated producer in the face of a post-merger price increase is unable or unlikely to sell the relevant product to independent purchasers in a timely fashion, perhaps because of difficulties in establishing a distribution system or qualifying products with customers, then captive production will not be included in the relevant market[18].

The US courts, similarly to the agencies, have left the issue open, and make decisions taking into account the specific facts.

In the landmark case *United States v Alcoa[19]*, where the market under examination was that of aluminium ingot, the Supreme Court included in the relevant market Alcoa's own production, which was not sold as ingot but was further fabricated by the firm. The Court explained:

> "The part of its production, which Alcoa itself fabricates, does not of course ever reach the market as ingot...However, ...the ingot fabricated by Alcoa had a direct effect upon the ingot market. All ingot – with trifling exemptions- is used to fabricate intermediate or end products; and therefore all intermediate, or end, products which Alcoa fabricates and sell, *pro tanto* reduce the demand for ingot itself...We cannot therefore agree that the computation of the percentage of Alcoa' s control over the ingot market should not include the whole of its ingot production".

In more recent decisions the US Courts have recognised that "when a customer can replace the services of a wholesaler with an internally-created delivery system, this "captive output" (e.g. the self-production of all or part of the relevant product)

continue to consume all of their production but increase their production of both the relevant product and contracts in which the relevant product is embodied". See also Thomas E. Kauper *op.cit.*6, 1749.

[15] § 1.31.

[16] See *ibid.*

[17] The process of identification takes place at the stage where market shares are calculated. See also Kevin Arquit "Perspectives on the 1992 US Government Horizontal Merger Guidelines" 61 *Antitrust L.J.* 1992, 121, 126.

[18] See also *ibid.*

[19] *United States v Aluminium Co. of America*, 148 F.2d, 416 (2nd Cir. 1945); other cases involving captive production considerations include *Spectrofuge Corp. v Beckman Instruments, Inc.* 575 F.2d. 256 (5th Cir. 1978); *In re Int'l Tel. & Tel. Corp.*, 104 F.T.C. 280, 410-11 (1984).

should be included in the same market"[20]. Conversely, in *FTC v Cardinal Health*[21], amongst others, the Court refused to include direct sales by drug manufacturers in the relevant market, which finally included only prescription drugs distributed by drug wholesale companies. The Court relied on customers' views. Customers had testified that they would not increase their direct purchases from manufacturers or consider self-distribution in the event of anti-competitive practices. Other decisions have also refused to include captive production in the relevant market[22].

This thesis would argue that effective merger control is necessary and that the issue requires careful examination because captive sales offer useful evidence for the ability of firms to exercise market power.

For instance, such sales could under certain circumstances exercise significant disciplinary pressure on "merchant sales", because, amongst others, it may be easier for firms making only "captive sales" to enter into the "merchant market" than firms starting from scratch[23]. There are also cases where firms may be perfectly willing to divert "captive sales" to the "merchant market", if it is more profitable for them to do so, and other cases where there is downstream competition between "merchant customers" and "captive customers"[24]. In the latter cases, the price set in the downstream market by "captive customers" may limit the extent to which prices could profitably be raised to customers in the "merchant market".

Furthermore, the US Court's view in *Alcoa* that the sales of the downstream product produced by captive suppliers of the raw material finally reduce demand for the raw material in the merchant market is also relevant. A consequence of this view may be that captive supplies constitute for vertically integrated firms a *de facto* alternative to the merchant market.

Conversely, there is no doubt that captive sales offer to the vertically-integrated firms advantages, which are often very significant and prevent these firms from diverting captive production to the merchant market in case of higher prices there. More specifically, captive production offers all the advantages of vertical integration, such as stable flows of raw materials, protection from the price fluctuations often occurring in the merchant market and economies of scale. In other words, captive

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[20] See *FTC v Cardinal Health, Inc.* 12 F. Supp. 2d (D.D.C. 1998).
[21] *Ibid.*
[22] See e.g. *Grumman Corp. v. LTV Corp.* 665 F.2d 10, 14 (2nd Cir. 1981) (captive production excluded because captive sellers lacked capacity to increase in-house work in the event market produced profit opportunities).
[23] See Baker *op.cit.* 11.
[24] *Ibid.*

production is a source of efficiencies for the vertically integrated firm. The potential of diversion of captive production to the merchant market in such cases could result in an economic loss if, for instance, the firm was forced due to the diversion to shut down part of its downstream production, which would mean loss of sales and extra costs from the shutdown[25].

According to one view[26], the application of the SSNIP test could be used to solve the problem. If the test shows that customers will switch to captive production in case of a price increase in the merchant market, then the market is wider. If they do not, the market must include only merchant sales. This view points also to the possible existence of switching costs[27] that may not justify the switch from suppliers of captive production.

An opposite view argues that captive sales must be given equal treatment with merchant sales even if the application of the SSNIP test indicates exclusion because captive production is part of the market balance and any change in that production unrelated to a change in demand, will affect the product prices[28].

It is submitted that there should be no mechanistic approach on the treatment of captive sales, but rather a decision based on the specific facts of each case[29]. If the facts show that captive sales affect market balance and prices then they should be included in the relevant market, otherwise they should be excluded. However, it seems that in most cases captive sales must be included in the relevant market and particularly when vertically integrated firms have significant presence as sellers in the merchant market, because these firms may try to raise merchant prices to harm buyers competing with subsidiaries of integrated firms downstream. One such case, as will be explained below, is that of Alcoa.

4.2.2. The relevant product market of SGA

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[25] See also Robert Pitofsky "New Definitions of Relevant Market and the Assault on Antitrust" 90 *Colum. L.Rev.* 1990, 1805, at 1851.
[26] See Faull and Nikpay, *The EC Law of Competition*, Oxford University Press, 1999, para.1.143.
[27] Switching costs arise when customers who have purchased from one supplier face real or perceived costs when switching to a rival's product even if the two firms' products are functionally identical (see Andrea Lofaro and Derek Ridyard "Switching Costs and Merger Assessment-Don't Move the Goalposts" 24 *E.C.L.Rev.* 2003, 268).
[28] See Denis "An Insider Look at the New Horizontal Merger Guidelines" 3 *Antitrust*, 1992, 6, at 7 ("Vertically integrated firms are as important to the pre- and post-merger competitive interaction as firms selling into the merchant market and should be given equal weight in identifying market participants. If any portion of productive capacity, captive or not, were withdrawn from production without a change in demand for the relevant product, the price of the relevant product would rise")
[29] See also Baker *op.cit.*11, 164.

The Commission's decision to consider SGA and CGA as separate markets was justified: the lack of demand substitution was very obvious, since the two products were used as raw materials in specific industrial applications where no substitutes existed, while for the lack of supply substitution the Commission's arguments were supported by historical market evidence, which offered credibility. Besides, the Commission since the ECJ's decision in *Commercial Solvents*[30] has ruled that raw materials may constitute by themselves distinct product markets.

Regarding the treatment of captive sales and of long-term SGA contracts, some comments should be made:

4.2.2.1 Internally used and merchant alumina: parts of the same market or separate markets?

Some additional information collected by this thesis will help to clarify certain issues about captive sales in the SGA market.

Firms operating in that market are integrated or non-integrated. Integrated firms own both alumina refineries, which produce SGA, and aluminium smelters, which use SGA as a raw material to produce aluminium. Non-integrated firms operate only aluminium smelters and satisfy their SGA needs through purchases from the merchant market.

Concerning integrated firms, not all firms are self-sufficient concerning SGA, but certain of them, such as the Alcan and Pechiney have –or at least had in the period under examination in *Alcoa/Reynolds*- SGA deficit, which means that these firms are partly dependent on the merchant market for SGA supplies[31]. Conversely, other integrated firms, such as Alcoa, Reynolds and Kaiser demonstrate alumina surplus, which is sold to firms with deficit or others with no production, on the merchant market[32].

Although there is generally mutual dependency between suppliers and buyers - due to the unique usage of SGA in the production of primary aluminium of which SGA is an indispensable raw material- in fact buyers are weaker. This is so because it

[30] Cases 6 and 7/73, *Istituto Chemioterapico Italiano Spa and Commercial Solvents Corp. v. Commission* [1974] ECR 223, [1974] 1 CMLR 309; See also Alison Jones and Brenda Sufrin *EC Competition Law: Text, Cases and Materials* (2nd Ed.) Oxford University Press, 2004, 313.
[31] See also in paragraph 35 of the Commission's decision.
[32] See *infra*.

is more costly to leave smelting (aluminium) capacity idle than refining (SGA) capacity[33] and also because alumina deteriorates in storage -it soaks up water[34]- and thus smelters cannot use periods of low prices to store SGA for usage in periods of tight supply and high prices. Thus smelters are dependent upon suppliers for stable flows and "in time" deliveries of SGA.

In respect of captive production, there is available market evidence indicating against the Commission's decision to exclude that production from the relevant product market. More specifically, the Commission's basic argument for exclusion was, as shown, the lack of availability of captive SGA to buyers even if SGA prices were to increase significantly. While the argument was potentially valid, it will be nevertheless shown by this thesis that captive SGA determines how much SGA will be sold on the merchant market, thus affecting the supply/demand balance and prices in the latter market and therefore, as such, captive SGA should have been included in the product market. In other words, this thesis argues that the application of SSNIP alone in this case was not illustrative of the competitive significance of captive SGA production and that other market factors should have also been taken into account.

The (real) market scenario supporting this view is the following:

First, companies with surplus SGA production, such as Alcoa, could affect prices in the merchant market by undercutting SGA supplies there. The prices of SGA would go up and this would raise the costs of independent smelters (the buyers of merchant SGA), thus undermining the latter's ability to compete in the downstream market of primary aluminium. Independent smelters would face more significant problems if the SGA price increases occurred in periods of low aluminium prices when profit margins are necessarily low[35]. Regarding suppliers, they would benefit from higher prices from the SGA remaining in the markets after the cuts, while due to the fact that the most of these firms are vertically integrated they would acquire cost and, thus,

[33] See para.13 of the Commission's decision. According to a market report by European Aluminium Association dated October 2000, smelters in the western world were operating at around 96% of capacity at the end of the last decade, while a another report about Indian aluminium sector (www.investsmartindia.com) , dated August 28, 2000, referred to 98%.

[34] See also Gillian O' Connor "Global Crisis will Delay Expected Recovery: Although the Industry is Confident in the Short-term that Causes Concern" in FT Survey: *Aluminium 2001*, Oct. 31, 2001.

[35] As we will see below when analysing post-merger competition the cost of alumina hardly represents more than 25% of total cost of smelters and, therefore, smelters are not extremely sensitive to alumina prices. Nevertheless, the impact of a big increase in SGA prices on smelters' operation may be significant if that increase takes place in period of low aluminium prices or, better, if the increase is combined with downward pressure on aluminium prices due to simultaneous restarting of idle smelting capacity by integrated firms such as Alcoa, which are also sellers of alumina in the merchant market. Then independent smelters would face significant financial problems, because they would suffer from increased costs of production due to higher SGA prices and lower profits margins in the aluminium market.

competitive advantage against their non-integrated competitors downstream. Moreover, if higher SGA prices were combined with low aluminium prices[36], it is apparent that certain independent smelters due to the profit squeeze might face the potential of leaving the market, which is also beneficial for integrated firms.

Suppliers in the merchant SGA market would have therefore better results if they were capable of influencing supply/demand balance and thus the primary aluminium prices and in this respect the captive SGA production, particularly that of Alcoa, would play a central role. To understand why a reference to the balance of powers between firms in both the SGA and primary aluminium markets is required.

Table 1 below depicts the situation in the merchant SGA market in the western world, which as will be shown below was the relevant geographic market for SGA in *Alcoa/Reynolds*. Source of the information is the American Antitrust Institute ("AAI")[37], a non-profit Washington D.C.-based organisation, which appealed to the US competition authorities against the approval of the *Alcoa/Reynolds* merger.

Table 1*: Forecast Net production of Western Third-party metallurgical alumina for 2001

Company forecast	Net production ('000 tonnes)	Market Share
Alcoa	6,800	43.0%
Kaiser	1,800	11.4%
Reynolds	1,200	7.6%
Glencore	1,200	7.6%
Nalco	1,000	6.3%
Algroup	775	4.9%
Jamaican Government	580	3.7%
Friguia	560	3.5%
CVG	260	1.6%
Ormet	100	0.6%
Other	1,525	9.7%
Total	**15,800**	**100.0%**

Alcoa was the largest SGA seller in the merchant market with 43% pre-merger and 50.6% post-merger market share.

Further, table 2 below depicts the situation in the downstream market of primary aluminium:

[36] Aluminium is a global commodity whose prices are determined in the transactions of London Metal Exchange (LME). The prices, as with other commodities, are very volatile and are strongly dependent upon supply/demand balance. Little changes in equilibrium cause relatively big changes in the metal's prices. This will be shown in more details in the analysis about that market in next chapter.

[37] The Institute published on February 23, 2000, a study titled "Anticompetitive effects of the proposed acquisition of Reynolds Metals by Alcoa".

Table 2 : Aluminium production 1999 ('000 tonnes)		
	Annual Capacity*	Primary Production
Alcoa	3,138	2,735
Alcan	1,661	1,490
Reynolds	1,118	1,065
Billiton	886	890
Pechiney	828	827
Hydro	745	749
Comalco	659	654
Aluminium Bahrain	537	515
CVG	520	482
Kaiser	510	413
VAW	421	421
Dubai	424	433
CIS countries*[1]		3,337
World total*[2]	21,822	20,655

Source: CRU International *Tonnes per year
*[1] 1998 *[2] Source: International Aluminium Institute

According to table 2[38], Alcoa was by far the largest aluminium firm in 1999 with a total market share reaching 3.8mt or 18.3% of annual primary production and 4.256mt or 19.5% of annual production capacity following Reynolds's acquisition. Alcoa had also 456,000t (4,256,000-3,800,000) of its aluminium capacity idled, while Alcan had 171,000t and Kaiser 97,000t.

Idle ("or excess") primary capacity offers, as will be explained in the competitive assessment, significant advantages to the few firms owning it. Most smelters cannot afford it since they have to run at full capacity to be cost-efficient[39].

Also tables 1 and 2 show that the major SGA suppliers (with the exception of Glencore) had also strong interests in the aluminium market where they were also major players. Alcoa was the market leader in both markets and its position would be further strengthened after Reynolds's acquisition.

Alcoa, by combining its strong position in the SGA merchant market and its idle aluminium capacity, could apply the abovementioned strategy to increase SGA prices and at the same time prevent price increases in the metal market. This could be done if Alcoa restarted its idle aluminium capacity and at the same time withdrew from the merchant SGA market the SGA amounts required for the new aluminium production. Thus, higher aluminium supply would keep aluminium prices stable, while the shortage in the SGA merchant market would exert upward pressure on SGA prices.

[38] The figures in tables 1 and 2 do not coincide in terms of time, but they are nevertheless representative of the market situation as no major changes between 1999 and 2001 occurred in the industry.
[39] According to Tsukasa Furukawa, a market analyst, the world operating-rate of aluminium capacity in 1999 and 2000 was 91.5% and 92.6% respectively (see Tsukasa Furukawa "Aluminium Supply, Demand Seen Rising" *American Metal Market*, Oct 15, 1999). In addition, a chart included in a market report of European Aluminium Association (update of October 2000) shows that the rate approached or exceeded 95% during 1999 and 2000, mostly due to the strong demand at the time.

In more detail, 800,000t (or 5% of the western market) of SGA, otherwise sold on the merchant market, would be required for the restart of 400,000t of Alcoa's idle aluminium capacity[40]. Such a volume would be sufficient to affect significantly both SGA and aluminium prices. A similar scenario was confirmed by a real market event examined by the Commission in *Alcoa/Reynolds* concerning an explosion at Gramercy refinery of Kaiser, a major SGA seller in the merchant market. The explosion, which occurred in 1999, removed from the SGA market for a period of almost two years 1,000,000t of SGA or 7% of the western-world production. As a result, SGA merchant prices rose by more than 100% within a few months after the explosion and this affected also the prices of aluminium, which increased significantly[41]. Compared to Gramercy Alcoa's scenario would most likely have smaller impact on SGA prices, since the restart would remove from the market 800,000t and not 1,000,000t of SGA, but the impact would still be significant.

Then, the restart of aluminium capacity would increase the metal supply thus preventing metal prices from rising at least as much as SGA prices. The Gramercy event, partly confirmed also this scenario. On January 2000, 7 months after the explosion and with SGA being higher by more than 100%, Alcoa announced its decision to restart 200,000t of aluminium capacity. Following Alcoa's announcement, SGA prices climbed further, while aluminium prices, which had previously also risen, fell sharply for a few months, but rose again due to the strong demand for the metal at that period caused by the favourable situation of the global economy[42]. This potentially means that under less favourable market conditions for the metal, the decline in its prices might have been sharper or last for longer.

The above analysis shows that captive SGA could be used to affect developments in the merchant SGA market. However, captive SGA itself is also dependent upon the merchant market. This is quite obvious, since internally used alumina is not utilised in a different process than alumina sold to the merchant market. Both "aluminas" are raw materials of primary aluminium and are therefore affected by the conditions in the aluminium market. If there is increased demand for aluminium, integrated firms

[40] For the production of 1t of aluminium approximately 2t of alumina are required. Alcoa could also find these 800,000t by increasing it SGA production in order not to harm merchant market, but since the focus is on anticompetitive effects, such a scenario is not examined here.
[41] See also the Commission's analysis for the event in the *Alcoa/Reynolds* decision in paras.24-25.
[42] The impact from Alcoa's announcement is examined in more details below and in the chapter of the thesis dealing with market of primary aluminium, where reactions by competitors and an assessment of the effectiveness and the profitability of the strategy is made.

with surplus production, could internalise more SGA to increase production in their smelters. If there is decreased metal demand, these firms could reduce production in their smelters and release more SGA in the merchant market. Thus, internally used alumina does not insulate its producers from the market conditions and prices nor do the merchant SGA and aluminium markets insulate their participants from the conditions regarding internally-used SGA.

Another factor supporting the inclusion of captive SGA in the relevant market was recognised by the Commission itself[43]: in the part of the decision dealing with entry and expansion in SGA merchant market the Commission stated that all expansion projects underway between the years 1999-2004 were mainly intended to cover the internal needs of major integrated producers. The most of these integrated firms before starting the expansion projects were facing small or bigger deficits in alumina supplies. Therefore, they were buying the extra volumes needed from the merchant market. The expansion projects announced by these firms would help them to limit or eliminate their dependence on the merchant market.

From the Commission's analysis it is apparent that captive alumina could serve as a *de facto* substitute for the merchant alumina for a category of buyers. The fact that captive SGA would not be readily available to these buyers but only after a relatively long period (2-3 years) -due to the requirement for lengthy expansion of their current capacity[44] and the existence of significant switching costs[45]- does not change the picture about the availability of captive SGA. This is so because SGA sales are dominated by medium and long term agreements. In this context, the ability of buyers to readily switch to substitute products, which along with the absence of switching costs are normally amongst the factors examined for the inclusion of two products in the same market, could be applied with relative flexibility by competition authorities[46]. Besides, the Commission's Notice on the relevant market, unlike US Merger Guidelines, does not define exactly what is meant by "short-term" in

[43] See para.35 of the decision.
[44] See also the analysis of SGA entry and expansion below.
[45] *Ibid.*
[46] Although the relevant market definition does not take into account potential competition, and entry and expansion analyses refer exactly to such competition, it is nevertheless useful to include in market definition certain SGA expansion projects. This is because apart from the fact that market conditions concerning SGA favour long-term agreements, which constitute the main source of competition between firms, certain expansion projects had already been announced and others were underway at the time of the analysis of the merger, which means that SGA production under these projects were already considered as part of the market equilibrium even if SGA would be available to buyers 2 or 3 years later. On the issue see also E. Navarro, A. Font, J. Folguera and J. Briones, *Merger Control in the EU,* Oxford University Press, 2002, at 5.31-5.39. The authors refer by way of example to the aircraft industry.

switching[47]. In any case the existence of expansion projects by buyers in the merchant market aiming at increasing their SGA captive production could constitute real market evidence, usually fundamental for market definition[48], indicating that merchant and captive SGA are substitutes or at least that captive SGA constrains the ability of suppliers in the merchant market to exercise market power.

For all the abovementioned reasons and taking into account the preceding discussion on the treatment of captive sales in market definition this thesis submits that captive SGA should have been included in the relevant market in *Alcoa/Reynolds*, because in that way the market definition would have been better reflective of the competitive constrains. The Commission's argument for the unavailability of captive SGA to buyers in the merchant market, which was the main reason for excluding captive SGA from the relevant market, was based on the application of the SSNIP test and on the views of customers and competitors. However, both these bases, arguably, did not demonstrate the whole market picture.

In more detail, as discussed above, the role of captive production cannot be fully determined by SSNIP test, because even if captive production would not be made available to buyers in the merchant market in case of higher prices there, it can nevertheless affect supply/demand balance and therefore prices. First, any reduction in SGA captive production unrelated to the market demand, will affect SGA prices in the merchant market[49]. Second, as will be explained in detail later into this chapter, the application of SSNIP in the SGA markets where prices are very volatile does not produce safe conclusions about the reaction of firms to price increases. In such markets it is difficult to establish a benchmark price and appropriate price-increase range and for the application of the SSNIP. Third, the crucial issue in the thesis's view in this case was the fact that vertically integrated firms, such as Alcoa, had a strong presence also in the merchant SGA market and strong interests in the downstream market of aluminium –a much more important market than SGA- where these firms were competing for market shares with the buyers of SGA. Thus, it is reasonable to argue that vertically integrated firms would use the merchant SGA market to control the behaviour of their non-integrated competitors in the primary

[47] See Navarro et al. *ibid.*, 5.36.
[48] Para. 38 of Notice on the Relevant Market.
[49] A reduction in captive production could occur, for instance, if captive production is high-cost and it is more profitable for the firm to buy SGA on the merchant market. Then, the increase of demand in the merchant market following the shutdown of the in-house production will raise prices in that market.

aluminium market. Fourth, the views of competitors and customers, which argued for a distinction between captive and merchant SGA, were not in the thesis's view a strong argument of the Commission because, as explained, the analysis of entry and expansion about the SGA market showed that captive production was for many firms an alternative to the merchant market.

For these reasons, this thesis argues that the US decision on *Alcoa/Reynolds*[50], which included in the relevant market of SGA both captive sales and the merchant market, was more appropriate.

Nevertheless, even if captive sales in the Commission's decision were to be excluded from the relevant market, they should have been taken into account along with Alcoa's idle aluminium capacity at the stage of the competitive assessment as factors reinforcing Alcoa's ability to establish dominant position in the merchant SGA market[51]. Unfortunately the Commission did not refer to the issue at all.

4.2.2.2 The treatment of long-term contracts

The decision to include long-term contracts in the merchant market was not fully explained by the Commission. The argument that these contracts did not insulate buyers or sellers from industry price fluctuations because a large amount of price flexibility was built into these contracts, was vague and did not deal with the issue of availability to buyers, which were examined in the case of captive SGA. If availability had been taken into account, as the parties argued, the Commission would have had to exclude long-term contracts from the relevant market, since the SGA sold under these contracts would not be made available to buyers in case of higher SGA prices.

The Commission, instead, focused on the fact that these contracts were part of the overall market balance and therefore they were connected to the developments in the market particularly in the area of prices. However, the same argument, as shown above, could have been used for the inclusion also of captive SGA in the relevant market. For this reason, the best solution, arguably, would have been to treat long-term contracts and captive SGA similarly, and under the specific circumstances to include both in the relevant product market.

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[50] See in the next chapter.
[51] See also, Faull and Nikpay, *op.cit.*26, 1.143.

However, this different treatment and particularly the exclusion of captive SGA might have been related to the calculation of the parties' market share: The parties' market share in the merchant market was according to the Commission 45%-55%[52]. If captive SGA had been included in the relevant market, their share would have been less than that[53], while if long-term contracts had also been excluded, the parties would have had a market share of 25%-35%[54]. Thus, one could argue that the Commission selected the market where the parties would have the highest market share, which could facilitate the establishment of a dominant position. The finding of a market share very close to or above 50% is generally in itself sufficient for the establishment of a dominant position[55], while a market share of between 30%-40% is much less likely to lead to such a position.

However, *Alcoa/Reynolds* is not the only case where the Commission potentially used market definition as shorthand for dominance. For instance, in *Shell/DEA*[56], a more recent case, which was discussed above, the Commission, went even further. In that case, as shown, the relevant market of concern was that of ethylene and the Commission not only excluded captive sales, but also defined the relevant market as that of "net merchant market sales", which did not include "merchant market" purchases made by suppliers in the merchant market. Long-term ethylene contracts, which have many common features with SGA long-term ones, were included in the relevant market because "...different treatment of contracts based only on their pricing formula would lead to inconsistent and arbitrary results..."[57]. About the relationship between captive sales and long-term ethylene contracts, the Commission stated:

"[I]f...intra-group supplies of ethylene are replaced by long-term supply agreements with third parties...the former captive use is accounted for the merchant market and may generate additional market share. However, such additional shares may not necessarily be considered as a full reflection of new market power"[58].

[52] See in para.21 of the Commission's decision.
[53] The analysis of DOJ for the same case, which defined an all-SGA market, refers to a post-merger market share of 38%. However, the relevant geographic market used by DOJ was worldwide, in contrast with the Commission's definition, which considered a geographic market as including only the western world.
[54] Para.16 of the decision.
[55] See para17 of the Commission's Guidelines on the assessment of horizontal mergers.
[56] Case COMP/M. 2389, [2001] OJ C202/18 (CEC).
[57] *Ibid.* at para.26.
[58] *Ibid.* para.31.

The Commission's market definition in *Shell/DEA* was criticised as "flawed" and the Commission was accused of building a joint dominance case and securing undertakings, which would not have been justified otherwise[59].

4.2.3 Conclusions

This thesis by analysing the Commission's definition in *Alcoa/Reynolds* has sought to discuss some issues related to the Commission's practice concerning market definition under the Merger Regulation. In *Alcoa/Reynolds* the central issue was the treatment of captive sales and long-term contracts. Captive sales have been examined in many cases under the ECMR and from the Commission's past practice one could infer that a "merchant market rule" was established by means that captive sales were normally excluded from the relevant market, which finally included only "merchant sales".

The analysis of the Commission's definition in *Alcoa/Reynolds* shows that the merchant market rule is not always indicative of the competitive significance of captive sales and therefore it should not be applied blindly. The Commission's definition in *Alcoa/Reynolds* was not blind, since the Commission provided some evidence, such as the lack of availability of captive production to buyers, but nevertheless, its final decision potentially was not fully reflective of the competitive significance of captive sales for the SGA market.

Another issue in this case concerns the different criteria applied for the exclusion of captive sales and the inclusion of long-term contracts. In the former case the lack of availability to buyers was the basic reason for the exclusion, while in the latter case availability was not taken into account, even if it was relevant, and the Commission relied instead on criteria, such as the fact that long-term contracts did not insulate buyers or sellers from industry price fluctuations.

The whole practice of the Commission in this case appears to justify the criticism often levelled against the Commission that market definition has not always been used for the identification of competitive constraints but, instead, for facilitating the application of the market test of the ECMR. This, though, is not a proper treatment of market definition and it is not compatible with the scope of EC merger control, whose

[59] See Simon Baker *op.cit.*11, 163.

objective is to identify and prohibit on the basis of economic and not technical criteria mergers likely to harm competition and consumers.

However, it is submitted that any inappropriate treatment of market definition should not be attributed so much to the Commission but to the inappropriately narrow scope of the dominance test of the ECMR before the recent reforms, which was forcing the Commission to house under the concept of dominance also cases, which should not be covered under that concept by defining narrow markets with high market shares

For these reasons it is submitted that the recent reforms by expanding the scope of the substantive test of the Merger Regulation to cases beyond dominance will reduce the reliance on narrow market definitions and will help to produce relevant markets more reflective of competitive constraints.

4.3 The relevant Geographic Market

The Commission considered the SGA market as worldwide but for the purposes of its analysis in *Alcoa/Reynolds* excluded SGA produced in Eastern Europe, CIS[60] countries and China. The main reason was the lack of exports from these countries to Western smelters: while trade from the West to these countries existed (Western suppliers were exporting 4mt to these countries), there was no trade from the East to the West, mostly due to the deficit and lower quality of alumina in eastern countries.

4.3.1 Analysis of competitive issues: globalisation of competition and relevant geographic market definition.

The nature of SGA as a global market offers a good opportunity to discuss the relationship between global competition and geographic market definition.

In economic literature global industries have been defined as "a series of linked domestic industries where structural forces combine to produce a single competitive arena which transcends national competitive environments"[61], while a more simplistic

[60] The Commonwealth of Independent States that replaced the Soviet Union.
[61] See M. Porter "Changing Patterns of International Competition" 28 *California Management Review* 1986, 9, at 12.

definition refers to "an industry in which a firm's competitive position in one country is significantly affected by its position in other countries and vice versa"[62].

The globalisation of an industry alters the latter's previous structural and competitive equilibrium. Global competition requires, amongst others, global-scale efficiencies, high technological intensity, access to raw materials, worldwide learning and local responsiveness, while firms must also be capable of timely reacting to the constantly changing global economic environment[63]. Moreover, compared with national markets, factors such as cost differences amongst countries, differing circumstances in foreign markets, different roles of foreign governments, and differences in goals, resources and ability to monitor need to be taken into account by firms when developing competitive strategies in global industries[64].

Competition authorities deal mostly with situations of increasing and not complete globalisation, which, amongst others, results in the gradual strengthening of cross-border competition and is accompanied by lowering of import tariffs and increasing trade flows between areas. Thus, national or regional entry barriers are being lowered or even completely removed thus widening the scope of geographic markets, while pressure from substitutes available by suppliers selling from previously distant world areas increases. Also technological advances have reduced the significance of physical distance, which constitutes one of the biggest barriers to the development of global trade. Regarding supply/demand balance, the effect of globalisation depends upon the degree of integration and concentration of buyers versus suppliers on a global scale[65].

In this context, merger analysis involving global markets becomes increasingly complex and proper market definition more difficult, because local barriers to trade are not always visible or at least so important. Although the definition of an "antitrust market" is an artificial construct seeking to help in the identification of market power held by a firm or group of firms and as such does not necessarily coincide with the

[62] See Mona V. Makhija, Kwangsoo Kim and Sandra D. Williamson "Measuring Globalisation of Industries Using a National Industry Approach: Empirical Evidence Across Five Countries and Over Time" *Journal of International Business Studies*, 1997, 679, at p.680.
[63] See Carlos Garcia-Pont "Global Strategic Linkages and Industry Structure" 12 *Strategic Management Journal*, 1991, 105, 107; also Makija et al, *ibid.* 682-683.
[64] See Michael Porter, *Competitive Strategy: Techniques for Analysing Industries and Competitors*, The Free Press, 1980, at 276.
[65] On the issue see also Leo Sleuwaegen, Isabelle De Voldere and Enrico Pennings "The Implications of Globalisation for the Definition of the Relevant Geographic Market in Competition and Competitiveness Analysis" European Commission: Enterprise DG, January 2001, 13.

economic concept of market[66], it is nevertheless necessary the antitrust market not to depart from the economic conditions because the competitive assessment will be based exactly on these conditions[67]. Thus, the fact that a market concentrating all the economic features of a global market has been defined for merger-control purposes as regional does not mean that the competitive assessment should focus only on the regional competitive features but should also take into account the global developments because they affect competition at the regional level.

The issue has practical importance because in cases involving global markets or markets increasingly globalised the calculation of market shares and concentration, which follows market definition, will not always be indicative of a firm's ability to exercise market power: in global markets competition develops dynamically and strategic behaviour is the main feature of the firms and this cannot be fully assessed only through structural analysis[68]. Thus, in certain global markets firms with high market share may nevertheless not be capable of exercising global market power (e.g. innovation markets), while in other global markets an otherwise low market share may enable the exercise of market power by a single firm (e.g. through strategic control of a commodity).

In other words, what is argued here is that in global markets merger analysis should be less reliant on market shares and concentration and should focus instead on dynamic-competition analysis for proving anticompetitive effects. The markets of SGA and aluminium are examples of global markets and their analysis by this thesis will help to clarify these issues.

Concerning EC merger control, the Commission's practice has traditionally been against defining worldwide markets[69], even if geographic markets under the ECMR

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[66] According to Scheffman and Spiller an antitrust market is defined as "...the smallest relevant group of producers possessing potential market power...", whereas an economic market is defined as "...based on arbitrage". See David Scheffman and Pablo Spiller "Geographic Market Definition Under the US Department of Justice Merger Guidelines" 30 *Journal of Law & Economics*, 1987, 123, 124.

The universe considered in antitrust situations should thus not be the economic market but rather the relevant product and geographic space in which sellers would jointly be able to exercise significant monopoly power (see Sleuwaegen et.al *ibid.*,24 citing also F.M. Fisher "Horizontal Mergers: Triage and Treatment" 1 *Economic Perspectives*, 1987, 23; C. Davidson and R. Deneckere "Horizontal Mergers and Collusive Behaviour" *International Journal of Industrial Organisation*, 1984, 117).

[67] According to Scheffman and Spiller *ibid.* arbitrage (the economic market) is also a relevant factor in the assessment of market power because arbitrage tempers market power. See also Sleuwaegen et al. *op.cit.*65, 24-25.

[68] Porter *op.cit.*64, 276, argues that the structural factors and market forces operating in global industries are the same as those in more domestic industries. However, he recognises that structural analysis in global industries must encompass foreign competitors, a wider pool of potential entrants, a broader scope of possible substitutes, and increased possibilities that firms' goals and personalities will differ as well as their perceptions of what is strategically important.

[69] The string of the few cases where geographic markets were defined as worldwide includes, amongst others, Case IV/M.292 *Ericsson/Hewlett-Packard* [1993] 5 CMLR 403 (support systems for telecom networks); Case IV/M.619

are generally broader than those under Articles 81 and 82[70]. This is not a surprise taking into account that the focus of the ECMR is on competition in the EU. However, as explained above, the globalisation of economies affects also the level and quality of competition within the EU and the Commission has to consider this when analysing mergers.

Another issue about geographic market definitions under the ECMR concerns the Commission's methodology, which appears less systematic and consistent than the methodology applied when defining product markets because quantitative tests such as SSNIP, supply and demand substitution, and price tests, are rarely applied[71]. Instead, the Commission relies mostly on two "very simple and crude"[72] empirical indicators for defining geographic markets: trade flows and comparison of price levels.

4.3.2 The relevant geographic market of SGA

The Commission's decision to consider the economic market of SGA as worldwide appears appropriate. SGA is connected to primary aluminium, a global commodity whose global prices are determined in the transactions of the LME. Moreover, SGA itself is produced worldwide and particularly in areas with low production costs from where SGA is shipped throughout the world. There are significant trade flows between geographic areas. Transportation or other local barriers to trade are rather insignificant. Firms producing alumina are multinational

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Gencor/Lonrho [1997] OJ L11/30; [1999] 4 CMLR 1076 (metals and minerals); Case IV/M. 532 *Cable & Wireless/Schlumberger* [1995] 4 CMLR 161 (advanced telecoms services for international groups); and Case IV/M.1069 *Worldcom/MCI* OJ [1999] L116/1, [1999] 5 CMLR 876 (top-level internet connectivity)

In *Aerospatiale-Alenia/de Havilland* (Case IV/M.053 OJ [1991] L33/42; [1992] CMLR M2) the Commission considered the market of turbo-prop aircrafts as worldwide excluding China and Eastern Europe on the grounds that there was little interpenetration between those areas and the rest of the world. Western-built aircraft were too expensive for airline purchasers in China or Eastern Europe, and domestically manufactured aircraft in those two regions were not meeting international safety and technical requirements and therefore could not be sold in the rest of the world. However, in its *Boeing/McDonnell Douglas* (Case IV/M.877 OJ [1997] C336/16) merger some years later the Commission defined the market for commercial aircraft as worldwide including China and Eastern Europe on the grounds that these countries had contributed significantly to recent market growth (See also C.J. Cook and C.S. Kerse, *EC Merger Control*, Sweet & Maxwell, 2000, 147).

These two mergers could be deemed an example of cases where globalisation led to broader geographic markets being defined.

[70] See Sleuwaegen et al. *op.cit.*65, 22.

[71] See European Commission, DG Enterprise "The Internal Market and the Relevant Geographic Market" Final Report, February 3, 2003, 47-48.

[72] *Ibid.*

groups with global operations[73]. These according to economists are between the features indicating a global market[74].

However, for the purposes of its *Alcoa/Reynolds* analysis the Commission excluded from the relevant geographic market SGA produced in Eastern Europe, CIS countries and China. The reason as shown was that there were no imports to the West from these countries due to the lack of sufficient surplus SGA capacity and the lower quality of SGA produced there. However, this thesis argues that the East had to be included in the geographic market because it was affecting market balance in the West.

In more detail, it is the Commission's established policy to consider a two-way pattern of trade between two regions as more important for including those regions in the same geographic market than one-way trade patterns[75]. In the latter case, particularly in the absence of significant imports, the Commission normally establishes separate geographic markets[76]. The Commission also seems to consider that an import level of less than 5-10% of the consumption in a given area indicates that that area constitutes a relevant geographic market or at least that the geographic market is not wider[77]. However, the 5-10% threshold is not strictly applied[78].

On the other hand, it has been reasonably argued that the absence of imports in itself should not be received as conclusive evidence for defining geographic boundaries. This is because, amongst others, the absence of imports in the past does not always prove also for the future (barriers to imports may be removed in the future)[79]. Moreover, it has been agued[80] that in the presence of significant exports, the

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[73] All these features of the SGA market will become clear in the analysis of that market below.

[74] See Allen Morrison and Kendall Roth "A Taxonomy of Business-Level Strategies in Global Industries" 13 *Strategic Management Journal*, 1992, 399, 400; also Porter, *op.cit.*64, 275-298.

[75] See Cook and Kerse *op.cit.*69, 141.

[76] See amongst others Case IV/M.190 *Nestle/Perrier*, [1992] OJ L356/1; IV/M. 308 *Kali & Salz/MDK/Treuhand* [1994] OJ L186/38; IV/M.582 *Orkla/Volvo* [1996] OJ L66/17.

[77] See Navarro et al., *op.cit.*46, 5.168.

[78] This is because the 5-10% threshold does not take into account exports. Thus, when geographic market definition is crucial for the result of the case the Commission completes its analysis with other factors (see Navarro et al *op.cit.*46, at 5.168; also Cook & Kerse *op.cit.*69, 140).

[79] See Navarro et al *op.cit.*46, at 5.169; according to former European Director-General for competition Alexander Schaub "[l]ack of imports can be just an indicator of competitive prices in the domestic market" (See Alexander Schaub "European Competition Policy in a Changing Economic Environment" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, Juris Publishing, 1996, 71, 84).

[80] See William Landes and Richard Posner "Market Power in Antitrust Cases" 94 *Harv.L.Rev.* 1981, 937, 968; also Navarro et al *op.cit.*46, 5.173. Posner and Landes in their influential article also argue that if a distant seller has some sales in a local market, all its sales, wherever made should be considered a part of that local market for purposes of computing the market share of a local seller. This is because the distant seller has proved its ability to sell in the market and could increase its sales there, should the local price rise, simply by diverting sales from other markets. For a critic on those views see Timothy Brennan "Mistaken Elasticities and Misleading Rules" 95 *Harv.L.Rev.* 1982, 1849.

geographic market should be expanded to include those areas where these exports are directed, along with the production of those firms that are located in those areas. The idea is that an increase in the foreign production would reduce the exports of the domestic firms, which in turn would induce them to divert supply to their domestic market thereby reducing prices in that market. In other words, foreign production would constrain the domestic firms' ability to exercise market power.

The above issues could be better seen in the SGA market where this thesis's market investigation revealed the following in addition to the Commission's evidence:

First, tables 3 and 4 below record the SGA production in the East and the West, and the distribution of production in Eastern world respectively:

Table 3	
The World Alumina Industry	***Million Tonnes***
World Annual *rated capacity* of *metallurgical alumina*, end of 1998	48.904
Rated Capacity in West	38.490
Rated Capacity in East	10.414
World annual *estimated production of metallurgical alumina* in 1999	45.338
Production in West	36.927
Production in East	8.410
(addition appears imperfect due to rounding)	

Source: American Antitrust Institute.

Table 4. Approximate Annual Rated Capacities of Metallurgical Alumina in the East as of December 1998

Nation	Rated Capacity [kt]	Share of East
China	3,700	36%
Russia	3,000	29%
Ukraine	1,300	13%
Kazakhstan	1,100	11%
Rumania	600	6%
Azerbaijan	400	4%
Hungary	200	2%
Other	100	1%

Source: American Antitrust Institute.

According to table 3, Eastern SGA production constituted approximately 19% of the world production in 1999, while table 4 indicates that China and CIS countries, particularly Russia, were the biggest Eastern SGA producers with the role of Eastern European Countries, such as Romania and Hungary being limited.

China was during the period under examination, a net SGA importer, by importing 1-2mt annually[81]. In 1999, China imported 1.57mt of SGA out of 4mt

[81] In 1998 China imported 1,090,000 tonnes of SGA or 7.5% of third-party sales, while in 1999 the volumes climbed to 1,570,000 or 10.5%. (Source: *American Metal Market* of May 31,2000).

Eastern-world imports[82]. Respecting aluminium production, China normally had a deficit though narrow[83] meaning that imported SGA volumes were not re-imported to the West through aluminium exports from China. China during the period of the late 90s, which is examined here, experienced steady economic growth, which fuelled the demand for aluminium and, as a result, for alumina, while this market trend was expected to continue in the future[84]. Regarding SGA deficit, it was also expected to continue to exist because projected capacity expansions in Chinese refineries were not sufficient to satisfy the needs of the increased demand[85].

In 1999 when the Gramercy explosion more than doubled spot alumina prices, China's imports rose by approximately 45% in comparison with 1998[86], thus contributing to the booming in SGA prices during that period[87].

In addition to the SGA deficit, which was making the sale to Western markets difficult, China had imposed a 20% duty[88] on SGA imports to protect local producers who were not cost-efficient compared with Western ones. The existence of such a high import duty constitutes, taking into account the Commission's past practice[89], sufficient reason for excluding China from the relevant geographic market. However, taking into account those mentioned above about the role of exports it might have been also reasonable to include China in the relevant market because changes in SGA demand in that country could affect prices in the West. China was annually importing more than 1mt of SGA from the West, a volume higher than that of Gramercy. This meant that the developments concerning demand in the Chinese market could affect prices in the West. Moreover, Chinese producers could contribute to the supply/demand balance of the Chinese market and through that in the western markets by increasing their own production. Thus, the ability of merging parties to exercise market power in the western markets could be constrained by the market developments in China. In any case, the role of China was proved after Gramercy

[82] *Ibid.*
[83] See Bob Regan "China Down, Russia up in Aluminium Exporting", *American Metal Market*, Sept. 27, 1999; also Bob Regan "Cheap Foreign alumina May Tempt China", *American Metal Market*, Feb. 26, 2001.
[84] See Martyn Chase "China Viewed as Aluminium Wild Card" *American Metal Market*, April 15, 2002.
[85] See *ibid.*
[86] See *op.cit.*80; from 1,090,000 tonnes in 1998, imports climbed to 1,570,000 an increase by approximately 45%.
[87] See the Commission's decision in para. 15.
[88] Source AAI.
[89] Price differential due to import duties are often used by the Commission as sufficient evidence for establishing separate markets. E.g. in *Mannesman/Vallurec/Ilva* (case IV/M. 315 [1994] OJ L102/15) the Commission considered price differences of 35% between Japan and Western Europe as conclusive that the two regions were separate markets. It came to the same conclusions in relation to the US where prices were only 5% higher and there existed a 10% import duty, which would not be faced out completely until 2005 (see also Cook and Kerse *op.cit.*69, 142).

where China was the biggest contributor to the increase in spot prices and through them in medium and long-term SGA prices that followed the explosion at Gramercy.

Regarding CIS countries, the situation was different: these countries, mostly Russia, were not exporting SGA to the West but they were exporting significant quantities of CIS-made aluminium, which however contained SGA[90].

Table 5 below depicts the situation in primary aluminium production and exports for CIS countries for the years 1996-98:

Table 5: CIS aluminium statistics ('000 tonnes)

Primary production	1996	1997	1998
Russia	2,873	2,905	3,005
Azerbaijan	5	10	0
Tajikistan	198	189	196
Ukraine	97	101	107
CIS total	3,173	3,205	3,307
Exports	**2,676**	**2,762**	**2,850**
Consumption	572	443	457

Source: CRU International Financial Times Surveys: Aluminium, 1999.

Table 5 shows that more than 80% of CIS production was exported to the West, with Russia being the largest exporter. The country's exports continued to rise in the years to follow and reached 3.173mt[91] in 2000. The basic reason for such huge Russian exports was relating to a tolling process developed from the early 90s, according to which western trading companies financed the purchase of alumina (from inside or outside Russia) and its delivery to Russian smelters where they paid a tolling fee and took back the resulting metal for sale in western markets. Tolling in Russia had enjoyed favourable tax treatment because it was essential for the survival Russian smelters, while the process was profitable also for western aluminium traders due to the low operating costs in Russia[92].

The existence of tolling also partly explains the import of millions of SGA tonnes annually in the Eastern world cited by the Commission. According to the latter, in 1999 the West sold to the East 4mt of SGA. In the same year China's SGA imports were 1.57mt, meaning that the bulk of the remaining 2.43mt were exported to the CIS countries. Respecting Russia, in 1998 domestic alumina production was able to cover

[90] The CIS countries in the mid-90s had been responsible for the collapse of aluminium prices when following the collapse of Soviet Union they had flooded western markets with aluminium. In the late 90s when *Alcoa/Reynolds* merger was reviewed the role of CIS countries was significantly reduced but they were still possessing significant market positions. For more information about the events of the mid-90s see "New Aluminium Output Will Dampen Price Increases", *Purchasing,* July 15, 1999; also Bob Regan "Wide Consensus Marks LME Aluminium Prices, Volume", *American Metal Market,* October 11, 1999

[91] See Bob Regan "Russian Aluminium Figures Confusing" *American Metal Market,* April 17, 2001.

[92] See also Christopher Stobart "Seeking a Long-term Strategy" in FT Survey: *Aluminium 2001.*

only 35%[93] of smelters' requirements, approximately 2mt. Given that the total Russian SGA needs were approximately 6mt[94] it is clear that the remaining 4mt were covered by imports from other CIS countries and the West. Such countries in CIS were Ukraine and Kazakhstan, which both had rated capacity of 2.4mt[95] in 1998. Thus, the remaining 1.6mt should come from Western suppliers.

Taking into account the insufficient quality of Eastern SGA and the financial and other maintenance problems the CIS producers were facing, it appears that the total western SGA imports to Russia did not fall below 2.5mt annually for the period under examination. In 1998 the country announced its intention to add 1.7mt[96] of SGA capacity to its refineries, but gave no timetable and remains unclear whether the project was materialised.

On the other hand, only Russia alone was exporting to western markets approximately 3mt of primary aluminium, which means that 6mt of SGA were also exported to the West through the metal. This further means that Russia was not only returning the SGA imports to the Western markets but was also exporting part of its own SGA production to those markets. Generally, it seems that exports of CIS-made SGA exceeded 2mt annually or more than 10% of the western merchant SGA market, which is a volume significant for the SGA market balance.

The Commission's analysis did not mention the potential of SGA exports to the West from the East through aluminium. The situation resembles to the treatment of captive sales examined above: since eastern SGA would not reach the merchant market as such, it would not be included in the relevant geographic market. Another argument that the Commission could use is that since in its competitive assessment for the merger took into account all western production including the 4mt exported to the East, there is no big difference. However, even in such a case it seems that a more appropriate approach would have been to include Eastern-made alumina in the geographic market, because the level of production and demand in the East finally affected market balance in the West.

[93] See Bob Regan "Russia to Boost Alumina Output" *American Metal Market*, Nov. 5, 1998.
[94] For 1t of the metal 2t of SGA are required.
[95] See table 4. Since rated capacity is not always in accordance with real production capacity, especially in the ill-equipped CIS countries, it is reasonable to believe that Ukraine and Kazakhstan actually produced less than 2.5mt. The same holds for Russia, which in 1998 had according to table 2 a "rated" refining capacity of 3 million tonnes, while the market report above showed that during that year Russian refineries were able to provide smelters with only 2 million tonnes of SGA.
[96] See *op.cit.*93.

4.3.3 Conclusions

The geographic market definition in *Alcoa/Reynolds* offered the opportunity to examine two important issues about geographic market definition, which also affect the competitive assessment of mergers: the first issue concerns the concept of global markets and its relationship with geographic market definition and thus with the competitive assessment; the second issue concerns the treatment of indirect imports of a product, which occur through the existence of that product as a raw material in the final product which is imported.

The Commission in *Alcoa/Reynolds* recognised features of a global market for SGA but finally excluded Eastern countries from the relevant geographic market on the grounds of lack of imports from the East. However, this approach was rather insufficient provided that as shown above SGA production and demand in the East finally affected demand and prices in the West.

In terms of methodology, the Commission's analysis lacked systematic means, such as SSNIP test and supply and demand elasticities, for defining the market.

However, according to those mentioned above about global markets, the recognition of SGA as such a market would have an impact on the methodology followed in the competitive assessment. In particular, the assessment should include strategic competition considerations and rely less on structural features, such as market shares and concentration. As will be shown below, the Commission actually referred to strategic competition considerations. However, market shares remained a central factor for establishing Alcoa's dominant position.

4.4 Competitive assessment

The Commission examined the following factors: market situation, post-merger competition, entry and expansion, country risk of expansion projects, know-how and technology, bidding process, and possible long-term suppliers. The Commission concluded that the proposed merger would create a dominant position in the merchant market of Smelter-grade alumina. Analysis and comments on all these issues follow below.

4.4.1 The market situation[97].

The parties' market share post merger would be [45%-55%] followed by Kaiser [5%-15%] and Glencore, Alusuisse, the Guinean Government and the Jamaican Government with less than 10% each. The Commission considered these figures already indicative of the merged entity's market power post-merger.

The Commission examined also buyer power and found that while supply-side was highly concentrated (C3 of 65%), demand-side was not (no buyer with a market share of more than 5%). Thus, buyers, according to the Commission had no countervailing buyer power.

4.4.1.1 Competitive issues and comments

Market shares and concentration are basic tools in the Commission's competitive assessments, even if there is no consensus between economists about which market shares or concentration level is critical for a firm's ability to exercise market power.

Regarding market shares, the Commission's horizontal mergers guidelines reflecting the latter's practice under the ECMR establish that post-merger market shares of above 50% may in themselves indicate a dominant market position, while for market shares below 50%, particularly within the 40%-50% range, the same conclusion could be reached in view of other factors such as the strength and the number of competitors, the presence of capacity constraints or the extent to which the products of the merging parties are close substitutes[98]. *Alcoa/Reynolds* was no exception to this rule since the 45%-55% market share of the merged entity and the significantly lower market share of the next competitor was alone "indicative of the market power of the merged entity".

Concerning concentration, the Commission Guidelines refer to the Herfindhahl-Hirschman Index (HHI), which is calculated by summing the squares of the individual market shares of all the firms in the market[99]. However, other concentration measures such as concentration ratios, which were used in *Alcoa/Reynolds*, are also used.

[97] Paras. 20-21 of the decision.
[98] See paras.17, 19-21 of the guidelines.
[99] *Ibid.* para.16.

In unilateral-effects cases, calculating the impact of the merger on concentration helps to assess the ability of the merged entity to raise prices above the pre-merger prevailing level[100].

The practical steps that the Commission follows is to examine first, the number of competitors, second the market share of each of the firms, and third the ratio and the difference between the quotas of each firm[101].

Regarding SGA, the Commission did not disclose precise data about the market shares of the parties and their main competitors. According to table 1 above, which contains more precise information than the Commission's decision, the situation concerning market shares between major SGA producers was as follows: Alcoa 43%, Kaiser 11.4%, Reynolds 7.6%, Glencore 7.6%, Nalco 6.3% and Algroup 4.9%.

Following the acquisition of Reynolds, Alcoa's market share would be 50.6%, followed by only three firms with a market share above 5%, Kaiser, Glencore and Nalco. Also, Algroup's surplus SGA production after its merger with Alcan, which had been approved by the Commission a few months prior to the *Alcoa/Reynolds* decision, would shrink, since Alcan was having at that time SGA deficit[102].

A first comment on the issue is that the merger of *Alcoa/Reynolds* concerned the acquisition of the third largest player by the market leader. Economic theory has proved that a merger increasing the size of the largest firm has negative impact on welfare, which means that consumers will be harmed by less output and higher prices[103]. As a result, Reynolds's acquisition would harm consumer welfare.

A second comment concerns the market share of the parties' closest competitors. Kaiser, the closest one, had a market share of 11.4%, less than a fourth of Alcoa's post-merger market share. The Commission often considers big differences in the market shares between the merging firms and their closest competitors, particularly if these differences result from the merger, as factors reinforcing the merging firms' ability to exercise market power[104]. Economic theory also suggests that horizontal mergers are more likely to be welfare enhancing, the more concentrated is the

[100] See also Alistair Lindsay, *The EC Merger Regulation: Substantive Issues*, Sweet & Maxwell, 2003, 2.01.
[101] See Navarro et al., *op.cit.*46, 6.45.
[102] According to estimates by AAI, which cited information taken from Alcan, that firm before the deal with Algroup had a deficit of about 200,000 tonnes. This means that the new firm resulted from the above transaction would have a surplus of 575,000 tonnes.
[103] See Preston McAfee and Michael Williams "Horizontal Mergers and Antitrust Policy", 40 *Journal Industrial Economics*, 1992, 181.
[104] See e.g. Case IV/M.983 *Bacob Banque/Banque Paribas de Belgique* [1997]; Case IV/M.916 *Lyonnaise de Eaux/Suez* [1997].

ownership of non-merging firms[105]. From that it could be also inferred that (consumer) welfare would be harmed the less concentrated the ownership of the non-merging firms. The market-share gap between Kaiser and Alcoa after the merger would be almost 31.6% of which 7.6% would be the contribution of Reynolds. Such a difference is normally sufficient to raise competitive concerns[106], given also that the contribution of Reynolds to the creation of this difference was significant. Also, the market shares of the remaining competitors after the merger would be significantly lower, since there would be only 2 firms, Glencore and Nalco, with market share above 5% each, and a number of smaller firms with market shares significantly below 5% each. This means that non-merging competitors were not concentrated. Thus, these two factors, namely the big market-share gap between the merging firms and their next closest rival and the non-concentrated rivals contributed further to the parties' ability to exercise market power post-merger.

A third comment concerns the situation with suppliers and buyers. The three-firm concentration ratio for SGA indicated high supply concentration (C3 of 65%). On the other side, the buyers' side was not concentrated (no buyer according to the Commission with more than 5% market share) indicating lack of countervailing buyer power. The role of concentration ratio however, should not be overestimated, since the index is not always that illustrative of the competitive conditions[107], but in the case of SGA combined with the lack of concentration in buyers' side the index, nevertheless, indicative of the market situation.

4.4.1.2 Conclusion

The examination of market shares and concentration, as the Commission mentioned, proved that Alcoa, as a result of the merger, would have the ability to exercise market power, due to its high market share, the big gap in terms of market shares with its closest competitors, the low level of concentration in these competitors and, finally, the lack of countervailing buyer power.

4.4.2 Post-merger competition[108]

[105] See Mcafee and Williams, *op.cit.*103.
[106] See also Navarro et al *op.cit.*46, 6.50.
[107] See also Navarro et al *op.cit.*46, 6.46.
[108] Paras.22-29 of the Commission's decision.

The Commission first examined the own-price elasticity of demand and found it extremely low (-0.146), because buyers had no alternatives to SGA and their only options were to accept an SGA price increase or shut down. It, however, said that aluminium smelters (the buyers) were not extremely sensitive to SGA prices because SGA represented only about 25% of their overall costs. A price increase of 10% would, therefore, result in a total-costs increase of only 2.5%, which would not threaten the viability of smelters' operation because the latter had higher profit margins.

Then, the Commission examined the conditions in the spot market, which was the only short-term possibility for buyers. It said that even if spot sales accounted for only 5% of the total SGA sales, they were very important because they served as a strong indicator for price negotiations for both new long-term contracts and annual negotiations for existing long-term contracts. The Commission considered that suppliers could use the spot market to raise prices of long-term contracts. It used the Gramercy as an example: the explosion in Kaiser's Gramercy refinery occurred on July 1999 and resulted in the withdrawal from the market of 1mt or 7% of western third-party production. The immediate impact on the spot market was an increase in SGA prices by 34%. The prices continued to rise and reached 360-370$/t in December 1999 from 160$/t prior to the explosion. Regarding long-term contracts the impact was also significant. The Commission cited market reports, which recorded two contracts concluded at 15% and 14.2% of the LME aluminium price respectively compared to the previous levels of around 11%-12.5%.

The Commission concluded that a cutback of 7% of SGA surplus production would raise spot prices by a multiple of that percentage figure with long-term prices also being affected. Thus, a large player, such as Alcoa, would be able to increase SGA prices significantly with relatively little cutback in its production.

Further, the Commission provided a list of the largest refineries in the world along with their operating costs. Alcoa's average operating cost (AOC) in its refineries was lower than the market's, thus offering competitive advantage to the firm. Alcoa's advantage was due to its control of three bottom-cost refineries Darling Range in Western Australia. Reynolds's acquisition would bring under Alcoa's control the fourth Darling Range refinery thus broadening Alcoa's advantage. All Darling Range refineries represented 19% of the total world production.

Further, the Commission expressed doubts about Kaiser's ability to rebuild on time Gramercy, which was at the time under reconstruction, due to the financial and other problems that the firm was facing.

Next, the Commission's investigation found that the merged entity would be capable post-merger of profitably raising prices by restricting SGA output. In particular, the merged entity would control the bottom-end refineries in terms of operating costs, while it would also control 2,200kt of high-cost production, which could be used as swing production for raising prices. Thus, the merged entity could shut down part of its high-cost production raising SGA prices. Such a move would be profitable because the losses from the shutdown would be fewer than the increases in profits caused higher margins in the other firm's refineries with lower operating costs than the swing plants. Alcoa was controlling the largest portfolio of low-cost refineries.

Incumbent producers could also use the same strategy for deterring new entry or expansion. Any expansion would require at least 18 months lead-time, while Alcoa could immediately restart its mothballed capacity, drive prices down again and make the expansion unprofitable.

Lastly, the same strategy could be used to undermine non-integrated downstream rivals in the market of primary aluminium by increasing their costs or to achieve higher profits downstream through higher aluminium prices.

4.4.2.1 Competitive issues and comments

Own-price elasticity of demand is a tool developed by economists, which is used to help in the assessment of a firm's ability to exercise market power through the imposition of higher prices on buyers[109]. It also provides information about the buyers' ability to switch to other suppliers or products in case of a significant price increase by their supplier. A low own-price elasticity of demand means that buyers are strongly dependent on suppliers and are therefore vulnerable to supra-competitive price increases. Further such a dependence combined with a high market share of the merged entity constitutes strong evidence for the latter's ability to exercise market

[109] Own-price elasticity of demand is the proportionate change in its quantity demanded divided by the proportionate change in price that induced the quantity change. For more details see Gregory G. Werden "Demand elasticities in antitrust analysis", 66 *Antitrust L.J.*, 1998, 363, 365; also Philip Areeda et al. *Antitrust Law*, vol. 42, 1995, 138.

power[110]. Regarding SGA, the strong dependence of buyers upon suppliers as expressed by the low own-price elasticity of demand along with the approximately 50% market share of the parties were very indicative for the parties' ability to exercise market power.

However, the Commission's argument that buyers were not sensitive to increases in SGA prices, it did not seem to be absolutely accurate. The Commission said that SGA constituted only about 25% of smelters' overall cost and that, therefore, smelters were not extremely sensitive to a price increase of SGA by 10%, because the impact on their costs would be only 2.5% and their profit margins were higher. However, the market evidence collected by this thesis indicates that under certain circumstances smelters can be extremely sensitive to SGA prices. This is so, because profit margins of smelters are very unstable because of the existence of high volatility in production costs and the prices of aluminium[111]. Thus, there are periods where profit margins are very small or even negative for a large part of aluminium producers and in such periods any increase in SGA prices could harm these producers. Moreover, SGA prices are also very volatile and the price-increase rate often exceeds by far the 10% referred to by the Commission. Thus, the thesis's view is that the level of 5-10% used by the Commission in the SSNIP test was inappropriate to fully reflect the market reality and therefore insufficient to produce fully reliable results on buyers' sensitivity to price changes.

In more detail, in respect of aluminium production costs, energy, which occupies significant part (more than 20%) of the smelters' total cost[112], is very volatile and there are periods where a significant increase in energy costs combined with low aluminium prices have inflicted significant harm on certain smelters, thus forcing them to exit the market[113]. In such periods, any increase in SGA prices, however small, would deepen the losses of smelters thus forcing some of them to exit.

[110] According to Massimo Motta (see Massimo Motta "Economic Analysis and EC Merger Policy", EUI Working Papers, Florence 2000) "consideration of market shares alone can be misleading in industries where production depends on the availability of raw materials or other indispensable inputs...Availability must be kept in proper consideration in order to assess market power". On the issue see also *Nestle/Perrier*, Case IV/M.190 [1992], OJ L356; Case IV/M.619, *Gencor/Lonrho* (1996) [1997] OJ L11/42; [1996] 4 CMLR 742.

[111] See below.

[112] See the table included by the Commission in para.22 of the decision where information about the components of the production cost of aluminium are provided. From this information it can be seen that energy occupies more than 20% of that cost.

[113] In the summer of 2000 the outbreak of energy crisis in the Pacific area of the USA caused a lot of trouble to aluminium firms having operations in that area. The prices of electricity went up by 400% and this development forced these firms to curtail production in their smelters and refineries. In the area of Pacific Northwest all major American aluminium companies have operations (see also US Geological Surveys, *Minerals Yearbook*, 2000,

Respecting SGA prices' volatility, it is largely caused by their connection to aluminium prices, which are generally very volatile, and also by reasons related to the SGA supply/demand balance[114].

Table 6 below will help to explain the volatility in aluminium and SGA prices:

Table 6: The Aluminium market: Supply/demand balance and 3-month LME prices

Year	*Supply/demand balance** Surplus (+), deficit (-), (million tonnes)	*LME 3-month prices* (1) year average (US$/tonne)
1994	-0.90	1,502
1995	-0.80	1,831
1996	+0.30	1,534
1997	+0.26	1,618
1998	+0.63	1,378
1999	+0.08	1,388
2000	-0.08	1,566

*Source: Purchasing, February 10, 2000.
(1) Source: American Metal Market, December 7, 2001.

Table 6 shows that little changes in equilibrium from one year to another cause relatively big fluctuations in aluminium prices. The picture would be even clearer if year lows and highs had been included in table 6. For example in 1994, the year low and high were US$1,128/t and US$1,999/t respectively, while for 1998, the corresponding figures were US$1,055/t and US$1,538/t[115].

Concerning SGA prices, they follow as mentioned above the metal's prices but this is not always the case as Gramercy showed. Using the examples given by the Commission the prices of long-term contracts after the explosion increased from 11-12.5% to approximately 15% of the metal's price, while AAI cited[116] increases for shorter-term contracts up to 17-18%, which means a price increase of between 20% and 60% for SGA contract prices and 5%-15% for aluminium smelters' total costs. This proves that real increases in SGA prices can often be higher than the level of 5-10% used by the Commission in the SSNIP test and that the impact on smelters' overall costs can be significant. Thus, the application of SSNIP test by the Commission could not produce useful results in this case.

2001). The financial shock for some of these companies was so big that they were forced to file for bankruptcy. McCook and later Kaiser were amongst them.

[114] SGA prices are generally more volatile than aluminium. According to the analysis of AAI, the coefficient of correlation (that is the standard deviation divided by the average) is 27% for alumina (real monthly prices) and 16% for aluminium (real monthly prices) during the period 9/1/94-10/1/99. Another measure of volatility presented by AAI is the variance of percent changes in prices month-to-month. That variance was at 18.5 for aluminium and 94.0 for alumina. Both the above indexes provide that alumina's prices are more volatile than the prices of the metal.

[115] Source: American Metal Market, December 7, 2001.

[116] See *op.cit.*37.

Further, according to the Commission's decision, the overall production cost for aluminium was US$1,410/t[117], while a more recent survey on the aluminium industry by the Financial Times puts that level to probably above US$1,100/t[118]. But even if the latter level was true, there were periods during the 1990s when aluminium prices fell below that low level. In particular, according to a prices report for aluminium[119], the 3-month LME aluminium prices demonstrated level below US$1,100/t in 1992, 1993, 1998 and 1999. Although the average price for the above years had been slightly higher than US$1,100/t there had been long periods within these years where smelters were selling the metal at prices below their overall operating cost. Using the Commission's level of US$1,410/t for smelters production costs the examination shows that more periods and within more years existed during the 90s where the prices of aluminium were at a level below the total production costs of smelters. Aluminium prices make cyclical movements and according to James King -a market expert whose information was used in the Commission's market analysis- at the bottom of the market cycle prices fall temporarily (as one-year average) to 15% below the level at which the operating costs of 75% of the industry's capacity are covered[120]. Although SGA prices normally fall with the metal, it is not impossible suppliers to restrict supplies in order to block the fall of SGA prices or, if possible, to increase them. In these cases the loss for SGA buyers would broaden, thus forcing some of these buyers to exit.

Thus, the argument of the Commission that SGA buyers were not sensitive to price fluctuations of SGA was not fully valid.

Further, another disputable Commission argument was that aluminium producers facing higher SGA prices had only the options of accepting the higher prices or face exit. It seems that aluminium producers had also another option: to pass part of or all the SGA price increase onto their own customers. If that was true then Alcoa's ability to raise prices post-merger concerned not only the SGA market but also the downstream primary-aluminium market. The Gramercy event showed how this was possible:

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[117] Para.23 of the decision.

[118] See Gillian O' Connor "Aluminium: Global crisis will delay expected recovery: Although the industry is confident about the long-term, it is the sort-term that is causing concern" in FT Survey: *Aluminium 2001* October 31, 2001.

[119] See "LME High-Grade Aluminium Prices", *American Metal Market*, December 7, 2001.

[120] See James F. King "Aluminium to 2015, the looming average" Research Report, The Economist Intelligence Unit, 1997, at 214.

Following the explosion of July 1999 the spot SGA prices from US$160/t[121] climbed to US$370/t by the beginning of 2000 and to US$425/t[122] in May 2000, while they fell to US$250/t[123] in August 2000. The prices of long-term contracts during the above period, according to the Commission, were increased from the previous levels of 11%-12.5% of the LME 3-month price to 15%[124]. Regarding aluminium, the price trend was as follows: From a monthly average of US$1,400/t[125] in July 1999, the prices advanced to a monthly average of US$1,680/t in January 2000. The prices remained at high levels throughout 2000 and in August of that year were being negotiated at approximately US$1,550/t[126].

Using the above prices, it is possible to estimate the real impact of the increase in SGA prices on the costs and prices of primary aluminium. The focus about SGA prices will be on long-term contracts. About those contracts, the pre-Gramercy level of 12.5% given by the Commission[127] will be used as the pre-Gramercy SGA price for the purposes of the analysis here. The level of 15% also given by the Commission[128] will be used as the post-Gramercy SGA price level. For simplifying further the analysis it will be assumed that these levels refer to both long-term contracts under fixed prices and under annual renegotiations. The results are as follows:

a) 6 months after the explosion the 3-month LME prices of aluminium rose from US$1,400/t to US$1,680/t or by US$280/t. The impact on SGA long-term contracts was as follows: at the aluminium price of US$1400/t smelters had a cost of US$350[129] from alumina purchases. At the level of US$1680/t the cost was US$504[130]. This was an increase in SGA cost by (504-350=) US$154/t. Given that aluminium prices rose by US$280/t, smelters managed not only to pass all SGA price increases onto their customers downstream, but they also realised extra profits.

b) 12 months after the explosion, in August 2000, aluminium prices were at US$1,550/t, up by (1,550-1,400=) US$150/t from the price levels of July 1999. The

[121] Source: Department of Minerals and Energy of Western Australia: Report on alumina, 1999

[122] Source: Department of Minerals and Energy of Western Australia: 1999-2000 Statistics Digest.

[123] The reason for this fall was the announcement of Alcoa that would channel 400,000 tonnes of alumina to the market, after it completed a part of expansion in one of its refineries in Australia. Also Kaiser's Gramercy refinery restarted partly its production during that period.

[124] See para.24 of the Commission's decision.

[125] 3-months LME prices. Source: Department of Minerals and Energy of Western Australia, *op.cit.*121.

[126] Source: American Metal Market.

[127] Para.24 of the decision.

[128] *Ibid.*

[129] That is (1400*12.5%=) US$175/t of SGA. Since for the production of 1 tonne of aluminium, 2 tonnes of alumina are required, the total cost for the purchasing of these 2 tonnes was (175*2=) US$350.

[130] That is (1680*15%=) 252*2= 504 US$ for 2 tonnes.

cost of SGA during the same period was up by US$115[131], which was still lower than the price increase of the metal.

There are many more real-market examples that could be used for proving that smelters finally passed all or at least the largest part of the increase in their production costs caused by higher SGA prices onto their customers. Thus, it seems that aluminium smelters had not only the option of accepting SGA price increases or shutting down, as the Commission argued, but also the possibility of passing the higher raw-material prices onto their customers and, why not, of realising extra profits. The issue had practical importance for *Alcoa/Reynolds* review, since Alcoa's domination of the SGA market post-merger would allow the firm to affect indirectly prices also in the downstream markets, particularly those where Alcoa had strong presence, such as primary aluminium. Moreover, Alcoa's control of the SGA market could also reinforce collusion risk in the primary aluminium market as a means to better coordinate price rises in that market. The Commission accepted that higher SGA prices would undermine by raising their costs the ability of buyers to compete against the vertically integrated firms in the downstream primary aluminium market but did not refer to the possibility of higher prices also downstream or the potential of collusion there. For this reason, the Commission's analysis could be deemed incomplete. However, the issues concerning the primary aluminium market will be clarified in subsequent chapter of the thesis where the impact of *Alcoa/Reynolds* merger on that market will be examined.

Next, the Commission included in the text of its decision a table with information about refineries located in the Western world. Due to its importance, the table was included as table 7 into the thesis.

Table 7. Alumina refineries in the Western world

Plant	*Country*	*Owner*	*Capacity Kt*	*Operating cost (US$/t)*
Wagerap	Australia/Darling Range	Alcoa 60%	1,900	90.8
Worsley	Australia/Darling Range	Reynolds 56% Billiton 30%	1,880	91.3
Pinjara	Australia/Darling Range	Alcoa 60%	3,200	98.5
Pocos de Caldos	Brazil	Alcoa 100%	216	104.5
Damajodi	India	Nalco 100%	941	107.2
Belgaum	India	Indalco 65%, Alcan 35%	153	109.8
Gladstone	Australia	Comalco 30% Kaiser 28% Alcan 21% Pechiney 20%	3,465	116.6
Alunorte	Brazil	Hydro 25%	1,476	118.6
Gove	Australia	Alusuisse 70%	1,816	119.8
Sao Louis (Alumar)	Brazil	Alcoa 54% Billiton 36% Alcan 10%	1,140	120.8

131 That is, 1550*15%=232.5 US$ for 1 tonne of alumina or 465 for two tonnes. The total increase in SGA cost was (465-350=) 115 US$.

Clarendon (Jamalco)	Jamaica	Alcoa 50% JBI 50%	932	126.2
Kwinana	Australia	Alcoa 60%	1,935	126.6
Paranam	Surinam	Alcoa 55% Billiton 45%	1,825	131.8
Friguia-Kimbo	Guinea	Guinea 90% Reynolds 10%	600	135.9
Ewarton	Jamaica	Alcoa 93% JBI 7%	550	152.4
Kirkvine	Jamaica	Alcoa 93% JBI 7%	550	153
San Ciprian	Spain	Alcoa 100%	1,150	155.8
Auginish	Iceland	Glencore 100%	1,360	161
Point Comfort	USA	Alcoa 100%	2,318	163.8
Eurallumina	Italy	Comalco 56%, Glenc. 44%	975	166
Stade	Germany	VAW 50%, Reynolds 50%	750	169.8
Distomon	Greece	Pechiney 60%	720	170.3
Burnside	USA	Ormet 100%	595	171.3
St. Croix	USA	Alcoa 100%	600	179.5
Corpus Christi	USA	Reynolds 100%	1,600	185.8
Gardanne	France	Pechiney 100%	600	200.2
Gramercy	USA	Kaiser 100%	926	214.6

***Source: CRU**

According to table 7, Alcoa was controlling three bottom-cost Australian refineries (Wagerap, Pinjara and Kwinana) and through Reynolds it would acquire control over a fourth (Worsley). At the same time the firm post-merger would also control two high-cost refineries (St Croix, Corpus Christi) with overall capacity 2,200kt (2.2mt), which according to the Commission could be used as swing facilities for controlling prices. Alcoa could undercut production in these high-cost refineries to raise SGA prices. Given that the most competitors in that market were capacity-constrained any significant response by competitors to Alcoa's move could come through capacity expansions which were costly and lengthy, while Alcoa could cancel any benefits from these expansions by returning to the market the undercut production thus driving prices lower just before these expansions entered the market. In such a case competitors would face not only low prices but also the high capital costs of their expansions[132]. Thus, the possession by Alcoa of swing facilities, which would be strengthened through the acquisition of Corpus Christi of Reynolds, would reinforce the ability of the firm to exercise market power post-merger.

Further, according to the Commission, the average operating cost ("AOC") of SGA in 1999 was at US$160-170/t and Alcoa's AOC was below the market average. From the information in table 7 it was possible to calculate the AOC for the major firms. Thus, the AOC of Alcoa's refineries in 1999 was close to US$125/t, for Reynolds US$151/t, for Kaiser US$151.5/t, for Glencore US$162.1/t and for Nalco

[132] For more details on issues of entry and expansion in the SGA market see below.

US$107.2/t. From the above firms, Indian Nalco had the lowest AOC but the firm[133] according to the Commission preferred agreements with Indian and Chinese smelters.

From the other firms, Alcoa had by far the lowest AOC, which was well below the market average of US$160-170/t. Alcoa's advantage was very important given that its AOC was referring to a total production of 13.5mt (or 30% of the total Western world production of SGA) in 1999 of which 6.8mt were merchant SGA. The acquisition of Reynolds, which was having the second lowest AOC, would increase Alcoa's AOC to US$129.6/t or by 4%, which would still be far from the market average. The distance between the merging firms and Kaiser, the firm with the second lowest cost, would be approximately US$22/t or 17%, while between the merging firm and Glencore with the third lowest AOC the distance would be approximately US$32.5 or 25%.

From the above situations about AOC two conclusions could be drawn:

First, that Alcoa had a lower AOC than the overall market and its main competitors[134]. Respecting Kaiser -the second largest firm in the market- apart from its cost disadvantage against Alcoa, it has also to be mentioned that the firm was facing financial difficulties due to increased expenses for the reconstruction of Gramercy[135] and long-lasting disputes with workers' associations[136]. These two events were undermining Kaiser's ability[137] to vigorously compete against Alcoa and were further reinforcing the latter's market dominance.

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[133] Nalco was also a state-owned company since Indian government was controlling a majority stake there. This meant that the state management was reducing the ability of the firm to compete. Moreover, the Indian government was seeking to privatise the firm and therefore until the privatisation was completed –the privatisation was projected for 2003- Nalco should not have been expected the play a major role in the market (source: www.investsmartindia.com).

[134] The Commission has in several merger cases examined the cost structures of firms to find out if competitors are able to constrain the merged entity, and in case of finding of absolute competitive advantages as a result of the merger, it has gone on to the establishment of dominant positions. [See e.g. Case IV/M.794 *Coca-Cola Enterprises/Amalgamated Beverages Great Britain* [1997] OJ/L218/15 (Coca-Cola was able to achieve great economies of scale, which could not be matched by any of its competitors; Case IV/M.877 *Boeing/McDonnell-Douglas* [1997] OJ 366/16 (The merged entity would have excessive bargaining power *vis-à-vis* its suppliers that would directly prejudice its main competitor, Airbus].

The SGA market is a similar example since Alcoa's cost advantage, already in existence prior to the merger, would remain as such after that.

[135] Although Kaiser had insurance coverage in Gramercy, the money from the insurance was not enough to cover the overall capitals needed for the reconstruction of the refinery. The total cost of the reconstruction had been estimated at US$ 275 million of which the contribution of insurance had been expected to be around 50% (source: the firm's 2000 annual report to shareholders).

[136] Kaiser was sued by workers' association for unfair labour practices, while faced strikes by workers in its facilities during the years between 1998-2000. Only one of these strikes in 1999 caused, according to a report by American Metal Market, a loss of US$ 93 million to Kaiser.

[137] Finally, Kaiser did not escape bankruptcy in 2002. The reasons for this development were, according to market analysts, the energy crisis during the year 2001 in West US, where Kaiser has its most important operations, the expenses for the reconstruction of the refinery in Gramercy and the unfavourable conditions in the markets of aluminium due to the international economic recession (source: www.kaiseral.com)

Respecting Glencore, the other Alcoa's main competitor and the third largest SGA seller post-merger, the firm is part of a Swiss-based diversified group acting as a trader in most metals markets. At the time of *Alcoa/Reynolds* merger the firm apart from its cost disadvantage against Alcoa was also not completely independent as a competitor because it was partly sourcing SGA from Alcoa[138]. In addition, Algroup, the 5th post-merger largest supplier, had been acquired a few months prior to the *Alcoa/Reynolds* deal by the Canadian Alcan, which according to the Commission was sharing with the merging parties the incentive for higher SGA prices as a means to harm non-integrated aluminium producers[139]. Thus, Algroup was not a reliable competitor either.

The second conclusion from the AOC examination concerns *Alcoa/Reynolds* merger itself. According to the economic theory[140], a merger between firms having different but constant AOCs leads to the shutdown of the high-cost firm. However, given that such shutdowns are almost never observed in real mergers, the theory suggests that the sole gain from the merger to the low-cost firm, which does not need the assets of high-cost firm, is the elimination of the latter as a Cournot rival.

Alcoa and Reynolds had prior to the merger different but constant AOCs. The AOCs were constant because the largest part of these costs was fixed, due to the high capital costs and the relatively unchanged technology required for running the refineries[141]. According to the above theory, Alcoa would not need Reynolds's assets because it had itself sufficient low-cost capacity and, therefore, the only reason for the acquisition was to eliminate Reynolds as a rival. A closer look to the deal might prove that this theory was applicable to this merger. Let us explain why:

The most important of the Reynolds's assets was its stake at Worsley refinery in Western Australia, which had the second-lowest operating cost in the world. According to table 7, Alcoa was already controlling the first and third of Western Australian refineries and with the acquisition of Reynolds would acquire the missing second. Reynolds was also having a 50% stake in a German refinery and sole control in a US refinery, which were both high-cost facilities. Alcoa would not have cost benefits from the high-cost Reynolds's refineries but would benefit from Worsley, which would strengthen the firm's low-cost position.

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[138] See para.58 of the Commission's decision.
[139] See analysis of entry below.
[140] See Mcafee and Williams *op.cit.*103, 181.
[141] The refining of alumina use Bayer process, which was first introduced at the end of 19th century.

However, and given that competition authorities both in the EU and the US ordered the divestiture of Worsley, a move which Alcoa should have expected since Worlsey was competitively important, the only benefit for the firm from the merger, at least concerning the SGA market, was finally the elimination of Reynolds as a rival. The fact that Worsley would be sold to another competitor, which could potentially use it to compete aggressively against Alcoa, did not seem to be a big threat to the firm, since following the merger there were only a few independent and really capable competitors remaining in the SGA market. This was finally confirmed by the implementation of the decision on the remedies in this case, where as will be shown below the final acquirer of Worsley was Billiton, Alcoa's partner in several joint ventures in the SGA and the other aluminium markets.

Thus, one could say, that the acquisition of Reynolds by not offering any significant cost benefit to Alcoa, was finally aimed at eliminating an existing aggressive rival, thus enhancing Alcoa's ability to exercise market power.

4.4.2.2 Conclusions

The Commission's analysis of post-merger competition in the SGA market was to some extent analytical and comprised strategic competition considerations, such as the ability of Alcoa post-merger to use its high-cost refineries as swing facilities to profitably raise SGA prices. However, the analysis of the market by the Commission appeared to have underestimated the impact of higher SGA on buyers and also on the downstream market of aluminium. The application of SSNIP test was arguably not the right method for studying the reaction of buyers in a market demonstrating big price volatility.

It is submitted that the evidence presented above provides a more complete picture of the impact of *Alcoa/Reynolds* merger on competition and seek to contribute to a more qualitative approach to Alcoa's dominance. This will facilitate the discussion on the remedies for this case as well as on issues of effective merger control, one of the main objectives of this thesis.

4.4.3 Entry and expansion[142]

[142] Paras.30-46 of the decision.

The Commission's investigation found that due to the increasing demand there would be need for additional 5.5mt of SGA by 2003. Expansion of SGA capacity comes either in the form of capacity "creep" through de-bottlenecking, through "brownfield" expansions at existing sites, or through new, so-called "greenfield" projects.

Regarding greenfield expansions, which concern the construction of new refineries with large capacity[143], the Commission concluded that such projects, which were high-cost and had long-lead time[144] (5 years), were not viable taking into account the long-term term SGA prices. The realisation of the only two greenfield projects that were reported to the Commission was uncertain and the latter did not consider them as a serious threat to the market power of the merged entity.

Regarding brownfield expansions, which are cheaper and have shorter lead-time, the Commission found that the most such projects due for completion in the period 1999-2003 were intended to cover internal needs of major integrated producers. The parties' share in those projects would be 15%-25%, which was low but the Commission stressed that the completion date of many of the competitors' projects was speculative while the parties' projects were underway. Also that the integrated companies, which were running most of the competitors' projects, were sharing with the parties the incentive to increase SGA prices in the merchant market, since such a move would increase the cost of non-integrated rivals.

Further, the parties were controlling Darling Range refineries in Australia, which were located in the most suitable place for expansion in the world, since they had the lowest operating costs, low capital costs and were located in a politically stable environment. The Commission stated that for these refineries the parties were capable, apart from completing existing expansion projects, to expand further their SGA capacity by million tonnes within two years after the merger. These expansion opportunities of the parties alone, according to the Commission, were capable of satisfying almost half of the extra demand for SGA generated by the growth in aluminium production. They could also be used as a warning to anyone considering a large capacity expansion. Any announcement of an expansion in the Darling Range

[143] At least 1mt.

[144] According to the Commission capital costs for the construction of a new refinery of 1mt capacity totalled US$1billion.

would have the effect of deterring expansions by competitors that had higher operating costs and less political stability.

Further, the parties had the ability to block or delay expansion projects through the exercise of veto rights in a number of refining joint ventures, where they were partners with their competitors.

The parties' control over the low and high-cost refineries, including expansion possibilities in combination with its veto rights, would make the following strategy successful: the parties could delay brownfield expansion and at the same time reduce high-cost capacity to keep market tight and thus raise SGA prices at supra-competitive level. In turn, the parties could maintain supra-competitive prices because they could act in such a way as to deter entry if such entry was motivated by the inflated price levels. The mere announcement of expansion by the parties would affect the market prices of SGA and, as a result, expansion business plans by other competitors would have to be reviewed in the light of future alumina prices. This would be particularly the case where the required return on investment of a third party expansion would not be achieved, because of depressed future alumina prices.

Lastly, according to the Commission the market shares of the parties for the period 1999-2003 including all brownfield expansions and expansions through creep would be 50%, while if all the expansion opportunities in Darling Range were included, would be 65%-75% in 2003. This was considered in itself a strong indicator of the establishment of dominant position by the parties post-merger.

4.4.3.1 Competitive issues and comments

Entry is closely related to the merged entity's ability to exercise market power post-merger because if entry is sufficiently easy, a merger is unlikely to cause any significant anticompetitive effect.

The Commission guidelines on the assessment of horizontal mergers establish three criteria for assessing whether entry can sufficiently constrain the merging parties[145]. Entry should be likely, timely and sufficient to deter or defeat any potential anticompetitive effects of the merger. These criteria are not new but reflect the current Commission's practice under the Merger Regulation.

[145] Paras.68-75 of the Guidelines.

Regarding the likelihood of entry, the Commission's practice is to examine whether entry is likely or whether potential entry is likely to constrain the behaviour of incumbents post-merger[146]. The crucial issue concerning a likely entry is profitability, since potential entrants will enter into the market only if they can make profits out of the entry. The profitability of entry is a complex issue to determine since the analysis has to take into account several factors, such as the size of entry (small or large scale entry?) the price effects of entry (the entry must be profitable at the prevailing price level following the realisation of entry), the reaction of incumbent firms, the structure and features of the market.

Regarding timeliness, the Commission examines whether entry "would be sufficiently swift and sustained to deter or defeat the exercise of market power"[147]. The appropriate time period taken into account in the examination will depend on the general features and dynamics of the market under investigation, but timely entry should normally occur within two years.

Lastly, concerning sufficiency, the entry must have sufficient scope and magnitude to deter or defeat the anticompetitive effects of the merger[148].

Barriers to entry can take various forms and their effectiveness depends on the specific market conditions. In *Alcoa/Reynolds* the Commission's analysis was dominated by reference to the strategic use by Alcoa of its capacity-expansion capabilities to deter new entry or capacity expansions by existing rivals. The use of excess capacity for entry deterrence and control of existing rivals has been fully explained in economic literature. The basic entry-deterrence argument is that excess capacity adds credibility to the incumbent's threat to expand output in the face of entry, while it can also be used as a mobility barrier to counter aggressive undercutting by rivals[149]. The outcome of that strategy is that entry by a new firm and/or expansions by competitors become unprofitable, since the use of excess capacity drives market prices to sufficiently low level.

In *Alcoa/Reynolds* the Commission considered that Alcoa's strategic use of its excess capacity could be particularly effective in deterring entrants and existing rivals. Thus, Alcoa's dominance post-merger could not be threatened.

[146] *Ibid.* paras.69-73.
[147] *Ibid.* para.74.
[148] *Ibid.* para.75.
[149] See also Marvin B.Liberman "Excess Capacity as a Barrier to Entry: An Empirical Appraisal" XXXV(4) *Journal of Industrial Economics*, June 1987, 607, 608.

It is submitted that the Commission's findings were in essence correct. However, certain comments should be made, as a means to clarify also issues of the application of the criteria about entry as established in the Commission Guidelines. A distinction should be made between entry, expansion, and further expansion possibilities in the SGA market.

Entry. Regarding the likelihood of entry post-merger, the situation in the SGA market was as follows:

The SGA market demonstrated increasing demand, which should normally have induced entry[150], but nevertheless no new entry had occurred during the 5 years prior to the merger and no-one was expected for the foreseeable future. Any new entry in this market can come through the construction of new refineries. As the Commission said only one greenfield project had been completed in 1995 and there were two more by integrated firms at the stage of planning when *Alcoa/Reynolds* merger was examined.

The absence of actual new entry, though, is not necessarily an indicator of high entry barriers and anticompetitive behaviour in the market because it may also mean that either the market is very competitive or the expansions by incumbent players and the threat of potential competition are sufficient to keep prices down[151]. Such situations make entry unattractive and Alcoa expressly stated to the Commission that the long-term prices of SGA would not justify the investment costs of a greenfield project[152], which could be interpreted as meaning that new entry according to Alcoa, would not be viable.

However, entry analysis for merger control purposes does not focus on what will happen post-merger if the prices remain at competitive (and thus low) level but what will happen if the merged entity post-merger, imposes supra-competitive prices.

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150 Growth markets generally induce entry partly because they open up sales opportunities not exploited rapidly enough by established firms and partly because capacity constraints and satisfaction with the already possessed market positions may prevent market leaders from carrying a retaliatory price war very far (See F.M. Scherer and David Ross, *Industrial Market Structure and Economic Performance*,(3rd Ed.), Houghton Mifflin Company, Boston, 1990, 392). From past Commission's decisions recognising that market growth induces new entry, which reduces the risk of an individual or collective dominant position, see amongst others case IV/M.872, *TRW/Magna* (1997), [1997] 4 CMLR 370; also Case IV/M.322 *Alcan/Inespal/Palco* (1993), [1993] 5 CMLR 16).

151 See Richard Schmalensee "Ease of Entry: Has the Concept Been Applied too Readily?" 56 *Antitrust L.J.* 1987, 41, 46.

152 Para.33 of the decision.

Supra-competitive prices generally induce entry, but for SGA it seems that even if such prices occurred, a new entrant would still be difficult to appear.

This was confirmed by the Gramercy event, which led SGA prices to supra-competitive levels for more than twelve months without however, attracting any new entry. This meant that in the SGA market there were in existence factors preventing new entry even if prices were to increase significantly. The Commission referred to high capital costs, long lead-period and the ability of existing players and mostly Alcoa to apply strategic deterrence using the brownfield projects, as factors making unlikely any new entry in the SGA market.

Regarding high capital costs for initial entry, they have been recognised by several past ECJ[153] and Commission[154] decisions as constituting barriers to entry. However, it seems that a more accurate approach would be to consider them as temporary barriers to entry in the sense that they can delay entry and not permanently prevent it[155]. Regarding SGA, the cost for the construction of a new refinery was according to the Commission approximately US$1billion, which was definitely high but judging from the size of the firms involved in the industry it was not prohibitive[156]. It, therefore, seems that other factors were raising more important entry barriers in the industry with a long lead-time, which relate to the timeliness of entry, being amongst them.

The lead-time for the construction of a new refinery was according to the Commission at least 5 years. Economic theory suggests that this[157] is in itself a discouraging factor for new entrants because total costs associated with entry are higher the longer the entry period. Finally, entry costs per unit of time in cases of long entry period may be unlikely to fall by enough to compensate. Moreover, the long entry period increases entry risks such as the reaction by incumbent players and the potential alteration in market conditions[158]. Lastly, and maybe most importantly, the more time it takes an entrant to become fully committed to the market, the more time

[153] See e.g. Case 27/76, *United Brands Co and United Brands Continental BV v. Commission* [1978] ECR 207, [1978] 1 CMLR 429 para 122.
[154] E.g. *Re Continental Can Co* [1972] OJ L7/25, [1972] CMLR D11
[155] See also Richard Schmalensee, *op.cit.*151, 48.
[156] Firms participating in the industry have multibillion US$ annual revenues.
[157] See John Hilke and Philip Nelson "The Economics of Entry Lags: A Theoretical and Empirical Overview", 61 *Antitrust L.J.*, 1993, 365, 371.
[158] *Ibid.* at 372. Also, Herbert Hovenkamp *Federal Antitrust Policy: The Law of Competition and its Practice*,(2nd Ed.), West Group, 1999, § 12.6b2.

established firms have to take action to discourage the entrant from entering or alter the way in which the entrant will enter[159].

The latter factor was particularly important in the SGA market where incumbent players had significant first-mover advantages against new entrants because capacity expansions in existing refineries through brownfield projects had lead-time normally between 2 and 3 years well below the 5 years required for the construction of new refinery and also lower construction costs[160]. Thus potential new entrants were at a clear disadvantage against incumbent players[161]. The disadvantage was even bigger since certain incumbent firms, such as Alcoa and Reynolds had, at the period of the merger, the ability to carry out serious capacity expansions in Australian refineries, which had the lowest operating cost in the world.

Lastly, another factor discouraging new entry concerned the absence of buyers' concentration (no buyer with market share above 5%). According to a view supported by the Commission[162] and accepted by economic theory[163], if there is a small number of buyers or just a single one, then entry may be more likely, since the potential entrant will face less difficulties in its attempt to win significant orders to recoup the sunk costs of entry. Thus, the absence of buyer concentration in the SGA market made new entry more difficult.

Generally speaking the above analysis explained why new entry in the SGA market was not likely or timely within the meaning of the Commission guidelines.

Expansion. The interest, then, shifts to incumbent competitors where the same methodology of assessment applies. The ability of these competitors to expand rapidly and sufficiently their production capacity to cancel supra-competitive price increases

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159 *Ibid.*, 372.
160 See para.35 of the decision.
161 First-mover advantages are incumbent advantages that derive from the asymmetry of timing between incumbents and entrants and constitute barriers to entry (see David Harbord and Tom Hoehn "Barriers to Entry and Exit in European Competition Policy" 14 *Int'l Rev. L.& Econ.*, 411, at 416; Cook and Kerse *op.cit.*69, at 159).
162 See e.g. case IV/M.580 *ABB/Daimler-Benz* (1995); [1997] OJ L11/29; 5 CMLR 577.
163 See Massimo Motta *op.cit.*110, and for the formal presentation Chiara Fumagalli and Massimo Motta "Buyers' Coordination", mimeo, 1999.

by the merging parties[164] and the ability of the latter to deter the competitors' expansions constitute crucial factors for the competitive assessment[165].

Regarding SGA expansions, the Commission considered that the parties had a competitive advantage over their competitors because they controlled 4 bottom-cost refineries, which had very good expansion prospects. This according to the Commission could be used to threaten expansions by incumbent competitors and along with the ability of Alcoa to undercut its high-cost capacity would constitute effective strategy leading to higher prices. But let us examine the issue in more details.

First, it must be stressed that almost all SGA suppliers, including Alcoa, were capacity-constrained, since all firms were running their refineries in full capacity, to be cost-efficient. This was confirmed by available statistics collected by the thesis, according to which, prior to the Gramercy explosion western refineries were producing 96% of their rating capacity, while after that when a SGA deficit appeared, western production rose by only 1% to 97%[166], which seemed to be the level of capacity maximisation. Thus, no SGA supplier was capable of immediately increasing its production by using idle existing capacity in case of higher SGA prices. Therefore the next issue to be examined is whether competitors were capable of expanding their production faster and with lower cost than Alcoa.

Table 8 below, which lists expansion projects planned or underway for the period 2000-2004 in the SGA market helps to clarify this issue. The table was taken from the Commission's decision.

Table 8: Alumina Brownfield Expansion Projects (2000-2003)[1]

Location	Owner	Size (tpy)	Current status	Estimated completion
Wagerap (Australia)	Alcoa	450,000*	Nearly complete	2000
Worsley (Australia)	Reynolds, Billiton	1,250,000	Nearly complete	2000
Gramercy USA	Kaiser	1,000,000	Underway	2000

[164] The significance of brownfield expansions for the industry has been confirmed by James King, the market expert whose views were also used in the Commission's analysis. According to him the number of alumina refineries in the world has fallen to 65 from 78 in the past 20 years, but alumina capacity has grown by 21.4 million tonnes. The lesson, according to King is the importance of the expansion of existing capacity in the growth of the industry (See Alison Guerriere "Brownfields Said Main Source for Needed Capacity Increases" *American Metal Market,* March 6, 2002).

[165] See Faull and Nikpay *op.cit.*26, 3.69-3.72; also, Landes and Posner *op.cit.*80, 945. From the economic literature see Ciaran Driver "Capacity Utilisation and Excess capacity: Theory evidence and Policy" 16 *Rev. Ind. Org.*, 2000, 69; also Olivier Compte, Frederic Jenny, Patrick Rey "Capacity constraints, mergers and collusion", 46 *E.E.R.*, 2002, 1.

[166] See *op.cit.*37.

(rebuild)				
Burnside USA	Ormet	400,000	Underway	2000
Damanjodi (India)	Nalco	700,000	Underway	2001
Alunorte (Brazil)	Hydro, Aluvale, CBA	825,000	Announced	2002
Sao Luis (Brazil)	Billiton (share)	635,000	Proposed	2003
Muri Bihar (India)	Indal	60,000	Announced	2002
Gove (Australia)	Alusuisse	400,000	Proposed	2003
Renunkoot (India)	Hindalco	210,000	Announced	2002

•Source: Department of Minerals and Energy of Western Australia. Information about Wagerap was omitted from the Commission's table for reasons of confidentiality but were disclosed by the thesis's investigation.

' The Commission's table included two more projects of Indal and Alcan, but finally the Commission did not take them into account in its assessment because these projects were due for completion in 2004, which was outside the frame examined for this case. For these reasons these project were not included in table 8.

Wagerup and Worsley are two bottom-cost Australian refineries. According to an alumina report of the Western Australian government[167], Wagerup expansion increased its annual production capacity by 450,000t from 1.75mt to 2.2mt. The report noted that the production at Wagerup depending on the market conditions could reach 3.3mt in the future, through a further expansion by another 1.1mt. Regarding Worsley, Reynolds's share in the 2.25mt expansion would be 700,000t[168]. Thus, Alcoa post merger would control over (450,000+700,000=) 1.15mt of bottom-cost SGA or 19.5% market share of all the expansion projects of the period 2000-2003.

As for the competitors' projects, the Commission said that several of them and probably part of the abovementioned Alcoa's and Reynolds's expansions were intended to cover internal needs of integrated firms. The Commission also stated that the expansion projects of the period 2000-2003 would only preserve supply/demand balance without creating any surplus in supply. Thus by 2003 all firms would still be capacity-constrained, which meant that Alcoa would still be able to restrict SGA supplies without the competitors being able to constrain it.

Moreover, Alcoa's cost advantage in the market would still survive, since none of the competitors' expansions would take place at refineries with operating cost below that of Alcoa's Australian refineries. Instead, Alcoa's position post merger would be further strengthened because the acquisition of Reynolds's controlling stake at Worsley would enable the firm to control another bottom-cost refinery and also Billiton, the firm with the minority stake at Worsley.

The fact that the market situation was not going to change following the realisation of the above expansion projects can be seen in table 9, which records the distribution of market shares for the period 1999-2003:

[167] See the report of Department of Minerals and Energy of Western Australia, "Alumina 1999".
[168] According to information in table 7, in Worsley joint venture Reynolds's stake was 56%.

Table 9: The SGA market

	1999	2000	2001	2002	2003
Alcoa	48%	50%	44%	42%	44%
Reynolds	4%	6%	6%	6%	6%
Parties	**52%**	**56%**	**50%**	**48%**	**50%**
Kaiser	10%	8%	11%	11%	11%
Glencore	7%	8%	7%	7%	7%
Alusuisse	5%	3%	5%	4%	4%
Nalco	4%	4%	6%	6%	6%
Guinee Gov	4%	4%	4%	4%	4%
Jamaic. Gov	4%	4%	4%	4%	4%
Total	**86%**	**87%**	**87%**	**84%**	**86%**

Source: European Commission.

The relative stability of market shares of the firms and particularly of the parties for the period 1999-2003 confirms that planned capacity expansions by competitors would not threaten Alcoa's dominance.

Further expansions. They concern expansions beyond those that had already been announced for the period 1999-2003. The Commission's decision mentioned that the parties' Australian refineries had very good prospects of further expansion, particularly Wagerup and Worsley. The Commission's information was not complete, but the thesis's market research found that Wagerup's production, which after the 2000 expansion had reached 2.2mt of production, could easily expand by another 1.1mt to 3.3mt. The environmental approval[169] for the further expansion had been given and, thus, there was nothing to stop Alcoa from realising the project when the market conditions would become favourable. Regarding Worsley, where Reynolds was controlling 56% stake, the refinery could be expanded further to 4mt from 3.1mt. Reynolds's share in this further expansion would be 500,000t. Moreover, in Kwinana, another Australian refinery, Alcoa had developed a new technology, which if applied to the other firm's refineries could increase total production of SGA by around 500,000 tonnes annually[170]. In any case Alcoa would have post-merger another 1.6mt (excluding the new technology's contribution) of SGA ready to enter into the market from Wagerup and Worsley.

Such huge bottom-cost volumes could be used to raise further barriers to entry and expansion in the SGA market, while the Commission noted that the parties' market share would reach 65%-75% if all further expansion opportunities were taken

[169] See report of Department of Minerals and Energy of Western Australia, "Alumina 1999".

[170] More information about the new technology was included in the report of Department of Minerals and Energy of Western Australia, see *ibid.*

into account. This market-share level constituted strong evidence of Alcoa's dominant position, which was further strengthened by the fact that Kaiser, the largest competitor, had planned no significant capacity expansion for the period 1999-2003 apart from rebuilding the high-cost Gramercy refinery. Given also that Kaiser was facing financial problems, the firm's competitive gap from Alcoa would broaden during that period.

Lastly, the parties' ability to block capacity expansions by incumbent competitors through their blocking interests in joint ventures that the parties were running with competitors was another crucial factor in Alcoa's attempt to dominate the market post-merger. As table 7 shows, Alcoa had a majority or equal interests in several joint ventures particularly with Billiton and Jamaican government, while Reynolds was having, apart from Worsley, also 50% interest in Stade refinery in Germany and 10% stake in Guinea, where the firm was offering technical assistance to the majority holder[171]. The participation in these joint ventures would enable the parties not only to pursue a blockade or delay capacity expansions of the partners in the joint ventures but also to monitor the latters' behaviour.

4.4.3.2 Conclusions

The analysis of entry and expansion in the SGA market showed that the merging parties' dominance could not be threatened by the reaction of incumbent competitors or outsiders. To prove this, the Commission carried out a detailed analysis of the market situation.

In respect of the methodology used, the Commission analysis involved apart from conventional entry analysis also reference to strategic behaviour concerning the parties' ability post-merger to raise prices profitably by deterring entry and expansion. It is submitted that this was a positive point in the *Alcoa/Reynolds* decision because the Commission went beyond a superficial static analysis by looking deep in the competitive behaviour of firms, which constitutes a step towards a more effective merger control.

[171] See para.47 of the decision.

4.4.4 Country risk of expansion projects

The Commission's investigation concluded that Australia was by far the country with the lowest country-specific risk using as a measure the level of interest rates. Australia was followed by Jamaica, India, and Brazil. The merging parties by having Darling Range refineries in Australia, as their main production sites had therefore competitive advantage against their competitors.

On this issue there is no need for further comment.

4.4.5 Know-how and technology

According to the Commission, both Alcoa and Reynolds owned technology that could increase the yield of alumina in the refining process. Alcoa had a policy of not licensing know-how of this kind to competitors.

Also, Worsley joint venture had developed a new technology, which would increase production at Worsley significantly. The Commission did not disclose more information about this new technology, but stressed that it could have given Reynolds the ability to attack Alcoa's dominance. By merging with Reynolds, Alcoa would not only eliminate the threat but would also gain access to this new technology thereby increasing its cost advantage over its competitors. Alcoa could also use the new technology to further deter entry. The Commission concluded that the new technology would strengthen Alcoa's dominance.

The role of superior technology for establishing market control is somehow ambivalent. The ECJ and the Commission have in several instances[172] considered superior technology as a factor indicating market dominance, and this was confirmed in the Commission Guidelines on the assessment of horizontal mergers where technical advantages are cited between the types of entry barriers[173]. However, this view is not widely accepted.

Expenditure on new technologies normally requires high capital investment, which can be a sunk cost of entry thus contributing to the firm's dominance, but on the other hand, any potential entrant might not have to incur the same capital cost,

[172] See Case 27/76 *United Brands v. Commission* [1978] ECR 207, [1978] 1 CMLR 429, paras 82-84; Case 85/76 *Hoffman-La Roche v Commission* [1979] ECR 461, [1979] 3 CMLR 211, para.48; Case *Eurofix-Bauco (Hilti)* [1988] OJ L65/19, [1989] 4 CMLR 718.
[173] Para.71.

since it will not be required to reinvent the new technology[174]. Further, it has been argued[175] that the fact that some firms possess greater skills or other sources of competitive advantage based upon superior management, expertise etc. may be the result of the competitive process, which competition policy aims to foster. According to this view superior technology in such cases is not anticompetitive.

It seems that, as with captive sales, competition authorities in the context of merger analysis should not treat superior technology mechanistically. Such a technology gives competitive advantage to its owner but there are markets where for dominating the market other factors also play a crucial role. In the SGA market access to cheap raw material, namely bauxite ore, might be of equal or even bigger importance. Thus, in the SGA market, due to its nature, a high-cost US refinery would not be able to compete against Australian refineries whose production costs were half the US's even if it was using superior technology than the latter (see table 7). The latter technology would just weaken the competitive disadvantage of the US refinery. On the other hand, superior technology if applied to the bottom-cost Australian refineries, would further extend the cost advantage of these refineries and in this sense it would contribute to their ability to dominate the market.

Regarding *Alcoa/Reynolds* merger, it seems that the Commission's decision to consider the parties' superior technology as a factor strengthening their ability to dominate the market was correct. Alcoa had already cost advantage against its competitors and the access to the new technology of Reynolds would further reduce the firm's costs thus strengthening Alcoa's market power.

4.4.6 The bidding process[176]

The Commission rejected the parties' allegations that there were at least 4-7 bidders in tenders for third-party supply contracts in any given time. It cited historical evidence showing that Alcoa's share for contracts signed through the bidding process

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[174] See Jones and Sufrin *op.cit.*30, 309, 310. According to the definition of barriers to entry by the US economist George Stigler barriers to entry exist only where a new entrant will face higher costs than those already in the industry (see G.J. Stigler, *The Organisation of Industry*, Irwin, 1968, at 67). According to this theory superior technology is not a barrier to entry, since it does not represent a cost to the new entrant, which is not borne by the incumbents.

[175] See Harbord and Hoehn *op.cit.*161, 423.

[176] Paras.52-56 of the decision.

was in most years well above 40%, while if all bidders had equal opportunities Alcoa's share should have been 14%-25%.

The Commission explained:

"In a standard bidding situation where every bidder has the capacity to supply the whole market the winner is the company with the lower average cost. [That company] will set its bid just below the closest rivals average cost. In such a situation, the take-over of the closest rival [namely Reynolds] will lead to a considerable loss of competition since in any new bidding round the merged entity will set its price close to the third-best bidder".

Alcoa submitted that SGA suppliers were capacity-constrained. The market was balanced and all suppliers could and did sell all their production. Consequently, the price in any given tender was close to the average cost of the bidder with the highest cost because no low-cost producer would ever forsake his higher profits by submitting a bid close to his nearest rival.

The Commission accepted that the Darling Range refineries (two owned by Alcoa and one by Reynolds and Billiton) were playing an important role in tenders. Competition between Reynolds and Alcoa in tenders was tough because the two firms had similar costs and this was helping for lower prices. Reynolds could not be punished for deviation, because it had sufficient capacity to reply. Reynolds's elimination would therefore lead to higher equilibrium price in those bidding rounds where Darling Range plants were closely involved.

Then, the Commission argued even if Reynolds's available SGA for future tenders was limited, since a large past had already been sold out, the firm would still be capable of keeping prices low in future tenders where it would participate to sell the remaining SGA. Moreover, according to the Commission, Worsley had still an expansion opportunity of at least 400,000t, which, because most expansions were committed before work started, would enable Reynolds to submit another bid for this quantity.

The Commission concluded that the removal of Reynolds as a competitor would result in higher prices for long-term contracts because it would leave the control of all bottom-cost refineries to Alcoa.

4.4.6.1 Competitive issues and comments

For competition in bidding markets the all-or-nothing principle applies meaning that the winner supplies the whole tender, while the losers supply nothing. The situation becomes serious for bidders when the size of the tenders on offer is large relative to the size of the total market because in that case bidders failing to win will be forced to cut production in their plants or even to exit from the market[177].

Also, in bidding markets, market shares may offer little evidence about market power, because even firms with immaterial or even no previous presence in the market could effectively constrain firms with high market shares if they were able to submit a credible bid and more importantly if this bid was successful.

A merger involving firms competing in bidding markets may be harmful to competition if the merging firms for cost or other reasons were pre-merger constraining each other. Thus, the elimination of competition between the two firms post-merger will lead to higher equilibrium prices in the bidding process[178].

Regarding the SGA market, the largest volumes of the product are sold under long-term contracts signed after the submission of bidding offers by suppliers. Another feature of the SGA market is that it is in equilibrium meaning that finally all firms even the high-cost ones sell their production. Thus, failure to win some tenders does not result in serious negative economic consequences for the firms.

The Commission's analysis as shown concluded that *Alcoa/Reynolds* merger by involving two lowest-cost bidders would result in higher equilibrium prices in SGA tenders, because Alcoa after the elimination of it main rival would be free to offer higher prices in these tenders. This Commission's conclusion was reasonable but it seems that the elimination of Reynolds from the bidding process would reinforce apart from Alcoa's unilateral market power, also the risk of collusion there. The Commission did not establish also coordinated effects in this merger maybe because the dominance test, which was applied in this case, was oriented mostly towards tight symmetric oligopolies, mainly duopolies, and cases of broad and more asymmetric oligopolies such as that in the SGA market were not attracting equal attention[179].

However, as will be now shown, the SGA market concentrated several features relevant to tacit collusion. These features included amongst others, stable market shares, capacity-constrained competitors, homogeneous products, inelastic and

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[177] Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, Sweet & Maxwell, 2002, 14.01, 14.02.

[178] One such example could be a merger between the lowest and the second-lowest bidder. The removal of the second-lowest competitor will enable the lowest-cost firm to increase its bidding prices just below the price offered by the third-largest competitor from a level just below the second-lowest competitor prior to the merger. (See Bishop and Walker *ibid.*, 14.08; also below).

[179] Under the dominance test almost all Commission decisions establishing collective dominance under the ECMR concerned duopolies. This issue is examined in more detail in chapter 7.

predictable demand, transparent market, barriers to entry and expansion, structural links between firms and credible mechanism of punishment. All these features would be strengthened after the merger due to the elimination of Reynolds, which was potentially a competitor disrupting successful coordination because of its low-cost capacity and existing overcapacity. Let us examine the issue of collusion in more detail.

First, according to table 9 above, the market shares of the major SGA producers for the period 1999-2003 would remain almost unchanged. Market-shares stability generally is between the factors indicating coordinated behaviour[180] but some economists have argued that such a situation is also compatible with a non-collusive oligopoly[181]. For SGA, it seems that market-shares stability, taking also into account the other market features which are explained below, indicated more to risks of coordination than to the existence of a non-collusive situation. Further, table 9 shows asymmetries in market shares between SGA firms, which generally make coordination less likely[182] but, on the other hand, they cannot exclude it[183]. Also, according to the CFI's decision in *Airtours*[184], stable market shares resulting from cautious capacity planning do not indicate collective dominance if they exist prior to the merger, refer to all firms in the market and help firms to maintain their profitability against volatile and unpredictable demand. However, it is submitted that this ruling is not relevant for the SGA market. Although in the latter market capacity expansions could be deemed as "cautious", because amongst others they are difficult and costly, they nevertheless do not occur in the face of volatile and unpredictable demand, because as the Commission also said, capacity expansions follow the conclusion of the sale[185]. Moreover, demand in the SGA market is inelastic and this makes it predictable. In this respect and taking into account those mentioned above about the ability of Alcoa to make unprofitable or even block capacity expansions of competitors it seems that "cautiousness" in that market could be reasonably

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[180] See Bishop and Walker *op.cit.*177, at 7.38.
[181] See Roger D. Blair and Jill Boylston Herndon "Inferring Collusion From Economic Evidence", 15 *Antitrust*, 2001, 17, 19.
[182] See Motta *op.cit.*110, 21.
[183] According to Navarro et al *op.cit.*46, 7.71, asymmetric market shares could indicate the existence of collective dominant situation "...as long as there is a main group of two or three undertakings with much greater market shares than the remaining competitors..." The Commission has established collective dominance in cases involving asymmetric market shares amongst others in IV/M.1524 Aitours/First Choice (Case IV/M.1524 OJ [2000] L93/1, [2000] 5 CMLR 494).The main reason for ignoring the lack of symmetry between the oligopolists was that this factor itself an obstacle to tacitly co-ordinated behaviour.
[184] Case T-342/99 *Airtours v. Commission,* (Judgment of 6 June 2002), paras 88-92.
[185] Para.56 of the decision.

interpreted, as the result of coordination between suppliers or at least as a result of the intention of market participants to avoid engaging in tough competition, which could cause retaliation by big firms, particularly, Alcoa[186]. Thus, the stability in market shares for the period 1999-2003 even if major expansion projects were at the stage of realisation during that period could imply the existence of some form of consensus between major SGA firms. The acquisition of Reynolds by Alcoa would strengthen that risk by eliminating a potential deviator.

Further, product homogeneity and market transparency are two other factors generally facilitating coordination. Product homogeneity by reducing the dimensions of competition almost solely on prices reduces also the costs of coordination and thus makes it more likely[187]. Market transparency, amongst others, concerns transparency about prices, production and capacity levels, and investments in R&D and helps for monitoring the competitors' behaviour and detecting deviations[188]. SGA concentrates both elements, since it is a homogeneous product for unique use, namely the production of primary aluminium, while the nature of the latter as a global commodity whose prices are determined in the transactions of the London Metal Exchange safeguards wide transparency in both the aluminium and SGA markets. Thus, SGA demonstrates sufficient product homogeneity and market transparency to facilitate coordination between firms.

Moreover, structural links between competitors generally reinforce the potential of coordination[189]. Although under the ECMR finding of such links is not required for the establishment of collective dominance between firms, their existence is positively related to it[190]. In the SGA market, Alcoa and Reynolds pre-merger by participating with veto rights in joint ventures with competitors were able to establish contacts with these competitors and monitor the latter's behaviour. Now, after the acquisition of Reynolds by Alcoa, the latter would expand its contacts and monitoring to Reynolds's partners thus reinforcing the potential of coordination in the industry. In such a case,

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[186] The Commission guidelines on the assessment of horizontal mergers in para.40 refer to coordination aiming at limiting production or the amount of new capacity brought to the market.
[187] See Jones and Sufrin *op.cit.*30, 775; also Europe Economics "Study on Assessment Criteria for Distinguishing between Competitive and Dominant Oligopolies in Merger Control", Final Report for the European Commission Enterprise Directorate General by Europe Economics, May 2001, 31, 32; also para.45 of the Commission guidelines on the assessment of horizontal mergers.
[188] See Europe Economics *ibid.* 32-33; also Bishop and Walker *op.cit.*177, 7.39, 7.40.
[189] See para.48 of the Commission guidelines; Navarro et al. *op.cit.*46, 7.74-7.94; Europe Economics *ibid.* at 87.
[190] See *ibid.*

veto rights could be used as a credible punishment of these partners in case of refusal to cooperate.

Furthermore, all firms in the SGA market were capacity-constrained, which was facilitating coordination because there was no excess capacity to be used for deviation or retaliation[191]. In connection to the above, the fact that all SGA suppliers would finally sell all their production could also help for establishing coordination between all firms because this would maximize the price that their products would be sold, thus increasing profit margins.

As regards the form of coordination between bidders in the SGA market, it need not involve only collective action to raise price directly, which is the classical type of collusion, but merely action to change the rules of competition and to narrow its scope. Economists have described the relevant model as follows[192]:

"The collusive conduct in these cases [allows] the cartel members to insulate themselves from one another, at least partially, thereby establishing market segments within which each of the cartel members [have] increased pricing freedom. The newfound isolation [provides] benefits similar to those attainable from market power acquired in more traditional fashion. By increasing the space between cartel members, each [achieves] the power to raise prices. In these cases, collusion could generate profit increases even though the competing firms [do] not get together to set prices".

In accordance with the above model, the scope of coordination between SGA bidders would be to change the rules and narrow the scope of competition between bidders to achieve supra-competitive prices. The collusive conduct needed not be a result of collective decision and action; the capacity constraints, the average costs, which differed between the bidders but were known to all of them, and the transparency holding in the market concerning the available capacity for tenders of all the suppliers, were sufficient to show to the firms the way they should follow to have the best results for themselves. So, in any given tender where Darling Range refineries took part all the other bidders knew, due to their cost disadvantage, that they would probably lose. Even if Alcoa's argument that the price in any given tender was close to the average cost of the bidder with the highest cost was true, this could not exclude the possibility that the price was intentionally set at that level, in order the low-cost refineries to realise higher profits, since they knew that none of the high-cost bidders would offer prices at level lower (or the same) of their average cost.

[191] See also Massimo Motta *op.cit.*110; also Olivier Compte et al *op.cit.*165, 1; also Massimo Motta "The Economics of Joint Dominance", mimeo, University of Michigan, 1999.

[192] See Robert H. Lande and Howard P. Marvel "The Three Types of Collusion: Fixing Prices, Rivals and Rules", *Wisconsin Law Review*, 2000, 941, 943. The model described here refers to a situation of allocation of contracts between bidders. Such a form of coordination is referred to in para.40 of the Commission Notice on horizontal mergers.

According to the model, the participation of Darling Range refineries in any given bidding process could be interpreted as a move to insulate these refineries from the other bidders thereby establishing a market segment where they would be virtually free to set the prices at the level they wished to, since the others would not bid hard. And according to Alcoa, that level was just below the average cost of the bidder with the highest cost.

What about the other bidders, whose average costs were higher than those of Darling Range refineries but lower than the price finally offered by them? These bidder would prefer to set their prices higher than the price offered by Darling Range, even if such a move would make them lose the tender, because they knew that they would probably sell their SGA production at a higher price, in the tenders to follow (the market was in equilibrium and all refineries would finally sell their production). Then, Darling Range refineries after selling out all their production at their chosen price, would withdraw from future tenders where the remaining bidders would offer higher equilibrium prices. In these tenders, the bidder with the lowest operating cost would also set the price and thus it could establish its own market segment. The same process would continue until all bidders sold their production. Thus, in that way all firms would finally establish their own market segment within which they would be free to set the prices at the highest possible level. Even if that level differs substantially between the firms, it is nevertheless higher than that achieved in a competitive market. Thus, all the bidders would be able to exercise more market power than if the market was fully competitive and, as a result, the overall equilibrium price in the market would be higher.

Alcoa/Reynolds merger would facilitate the establishment of the above scenario because it would result in the elimination of Reynolds a firm which due to its low-cost production and expansion capabilities was capable of acting independently thus making coordination more difficult.

The above-described scenario does not directly concern collusion on prices, which is most often the case with collusive oligopolies, but collusion aiming to narrow the scope of competition. Such situations, however, also fall within the scope of the Commission's analysis for merger control purposes and therefore the Commission could have looked to the potential SGA bidders to seek, between other things, also to narrow the scope of competition between them in the bidding process[193].

The implementation of the above scenario would be further facilitated by the repeated interaction between bidders and by the absence of new entry in the market. Repeated interaction improves communication between coordinating firms and helps to solve problems, while the absence of entry reduces the threat of "hit-and-run" competition, which could threaten the results of coordination[194]. In the SGA market, all bidders have long presence there and therefore are well known to each other. In addition, participation in SGA joint ventures and in other aluminium markets reinforces the potential of cooperation.

However, the Commission's decision mentioned that Alcoa's share in contracts signed under the bidding process had been well above 40% for most years, while if all bidders had equal opportunities the firm's share would have been between 14-25%. This could mean that coordination in the bidding market was not working effectively because Alcoa was capable of deviating due to its cost advantage and its expansion opportunities. However, provided that all sellers in the SGA market were finally selling all their production and taking also into account the other market features mentioned about, such as stability in market shares, market transparency, product homogeneity and capacity-constrained firms, one could still not reject the presence in the SGA market of coordination aiming to narrow the scope of competition.

For instance, firms being –most likely due to their higher costs- unable to establish their market segment in the bidding process and therefore with surplus production, could sell their production in the open market where Alcoa would not compete. In that market prices are generally higher and those firms would achieve higher profits. Thus, the market segmentation mentioned above could cover apart from the bidding process also the entire market.

However, according to the theory on oligopoly and the Commission's practice, for the sustainability of coordination two additional requirements should be met: detection and punishment of deviations[195]. Detection of deviations seeks to identify

[193] The Commission has examined collective dominance where collusion takes place in bidding markets in *MCI WorldCom/Sprint* (Case COMP/M.1741, 2000), concerns geographic partitioning of the wholesale gas market in *Exxon/Mobil* (Case IV/M.1383, 1999), or downtime of productive assets in *Norske Skog/Parenco/Walsum* (COMP/M.2499, 2001). See also in para.40 of the Commission guidelines on the appraisal of horizontal mergers.
[194] See Europe Economics *op.cit.*187, 22-23.
[195] See G. J. Stigler "A Theory of Oligopoly", 72 *Journal of Political Economy*, 1964, 44. Also para.41 of the Commission guidelines on the assessment of horizontal mergers. The guidelines refer also to a third factor, the reaction of outsiders, which was examined in the analysis of entry and expansion above.

those firms that do not adhere to the terms of coordination. In the SGA market such detection was not difficult, since any deviation required capacity expansion, which was easily detectable due to the high level of market transparency and the complexity and lengthiness of an expansion project.

Regarding punishment of deviations in conditions of capacity restrictions, the Commission's view[196] is that punishment based on capacity expansion can be successful if a) the punishment period is relatively short-lived, b) excess capacity can be absorbed by growing demand during the punishment period and c) the oligopolists are not committed to using the extra installed capacity base in the long-term.

However it has been argued[197] that in a market with growing demand each oligopolist can achieve higher profits through competition for increased sales than through parallel behaviour. Also, that effective punishment should target only the deviator and that broad capacity expansion is not very effective in this sense because it has normally, by affecting the total market equilibrium, significant impact on prices and thus harms also the oligopoly members. According to this view, such a consequence may undermine common policy between the oligopolists.

However, it should be mentioned that coordinated behaviour could be harmful to competition and consumers even if it did not perfectly achieve a monopoly outcome, but less than that[198]. Regarding retaliation, it is definitely more effective if it applies only to the deviator but it can also be effective if it applies to all competitors. For instance, the return to the competitive price level constitutes in many markets sufficient retaliation even if it affects also the oligopolists[199]. It may be even more effective at a preliminary stage as a threat against deviation because it is easy to apply. The retaliation threat, as the Commission showed in the analysis of entry, can often be as effective as the retaliation itself. Lastly, in cases where the oligopolists and the deviator compete against each other in several markets or where the deviator is dependent, even partly, upon the oligopolists for supplies of the product, the

[196]Case IV/M.2420 *Mitsui/CVRD/Caemi*, Decision of 30 Oct. 2001, paras. 239-241.

[197] See Robert O'Donoghue and Christoph Feddersen "Case T-342/99 *Airtours plc. v. Commission*, Judgment of the Court of First Instance of 6 June, 2002", 39 *C.M.L.Rev.*, 2002, 1171, 1178-1179.

[198] See Lande and Marvel *op.cit.*193, at 942-3; also 1992 US *Horizontal Merger Guidelines* § 2.11.

[199] See Frederic Jenny "Collective Dominance and the EC Merger Regulation" in *International Antitrust Law & Policy*, Fordham Corporate Law Institute, Juris Publishing, 2002, 361, at 364; also Jonathan Baker "The Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem and Contemporary Economic Theory" *Antitrust Bull.*, 1993, 143, 161.

retaliation may involve all these markets, while it will likely include cease of supplies to the deviator thus increasing the losses for him[200].

Regarding the SGA market, punishment of deviation could come mostly from Alcoa through its expansion advantages. In the analysis of entry above it was shown that the firm post-merger would have at least 1.6mt of low-cost SGA available for entry in the market earlier than any other competitor. Such quantity of SGA was more than that of Gramercy and its impact on the market prices would therefore be significant. Also, the firm could block or delay any attempt by competitors to increase their production in joint ventures where the firm was participating. However, the most effective use of these advantages would be, as the Commission also pointed out, as a threat against competitors. In a market such as SGA where most competitors are capacity-constrained, which means that any significant deviation by these competitors would require capacity expansions, which are costly, difficult, take a long time and are easily detectable, it could hardly be seen why a firm would endanger its market position by seeking deviation, knowing that its attempt would most likely fail because the cartel members, mostly Alcoa, after detecting the expansion would be able to cancel any benefit from the deviation even before that deviation occurred. Alcoa's expansion opportunities would enable, as shown, the firm to channel SGA to the market, thus driving prices lower, before the deviator's new capacity entered the market. Thus, the deviator would have to sell its new capacity at lower prices than expected, while he would also suffer from the high costs of the expansion and also from lower prices for the sale of his old capacity, since the overall market equilibrium would be violated. Of course, Alcoa, as the market leader, would lose more from the lower SGA prices, but it has to be remembered that the firm had also significant cost advantages against its competitors and therefore the loss for the firm, finally might not be that significant. In addition, along with Alcoa other players could retaliate against the deviator potentially not only in the SGA market but also in other aluminium markets where the most firms acting in the SGA market had also presence. As a result, it seems that at the time of the merger there was in existence in the SGA market a credible punishment mechanism, which along with the practical difficulties

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[200] For more on the role of multi-market contact in co-ordinated effects see Bishop and Walker, *op.cit.*178, at para.7.60. The Commission has examined multi-market contacts in several merger cases including *Air Liquide/BOC* (Case IV/M.1630, (2000); [2000] 4 CMLR 246) and *Solvey/Montedison-Ausimont* (Case COMP/M.2690, 2002).

that any potential deviator would face, were safeguarding the sustainability of the coordinated behaviour.

However, a question arising is whether Alcoa, taking into account its significant expansion potential and the inability of its competitors to retaliate, could become a deviator itself. It seems that even for Alcoa deviation entailed significant risks. Apart from the potential of lower SGA prices due to the upset in supply/demand balance in the SGA market caused by Alcoa's increased sales, the firm could potentially face a price war by cartel members in other aluminium markets as well. As shown above the most SGA sellers are vertically integrated firms with presence also in downstream markets. Thus, these firms could retaliate downstream and this could harm Alcoa. It would therefore be more beneficial for the firm to act as a leader in a collusive oligopoly than to compete.

4.4.6.2 Conclusion

The above analysis demonstrated features of the SGA market indicating increased risk of coordinated effects from the *Alcoa/Reynolds* merger in the bidding market for long-term contracts. One could say that the elimination of Reynolds would not only increase Alcoa's unilateral market power in SGA tenders but would also facilitate coordination between Alcoa and its main competitors there.

The Commission's decision by focusing only on unilateral effects in this case failed therefore to assess fully the impact of the merger on competition. Coordinated interaction is a serious market situation potentially more harmful to competition than unilateral market power, and therefore needs special treatment, particularly at the stage of remedies.

However, a basic reason for the Commission's non-reference to coordinated effects might have been the dominance test, which was applied in this case. This test, which was until recently the market test of the ECMR, was oriented towards single-firm dominance or in cases of collusion towards dominant oligopolies, mainly duopolies. The SGA market, as will be explained in the next chapter, concerned a broad oligopoly involving at least five firms with no symmetry in market shares between them and there has been no case under the ECMR where coordinated effects were established in a similar case. However, such situations can definitely be harmful to competition and therefore they should have been included within the scope also of the dominant test[201].

Now that a new substantive test in the ECMR has been adopted with broader scope and more flexibility, one should expect cases such as that of SGA to be captured and effectively dealt with by the Commission.

4.4.7 Possible long-term suppliers

The parties argued that there were at least seven SGAA producers with surplus production of more than 500,000t. They named apart from themselves Kaiser, Glencore, CVG, Nalco, the Guinean government and the Jamaican government.

The Commission did not agree that all these firms were reliable long-term suppliers.

Kaiser, the most reliable long-term supplier of the above firms according to most customers, was facing the uncertainty for the rebuilt of its refinery in Gramercy. Glencore was mostly a trader and was sourcing SGA partly from Alcoa. Nalco's preference was with medium-term contracts with Indian and Chinese smelters. The Jamaican government preferred also medium-term contracts and was facing capacity constraints due to Alcoa's first refusal rights in their joint refinery. CVG of Venezuela had only small quantities of alumina and was based in a politically risky area. Concerning Guinean government, it could not be considered as a reliable long-term supplier due to the country's political instability. Thus, the Commission concluded that after the merger only 3 long-term suppliers would remain in the market.

Billiton and Pechiney, which were acting in alumina market as traders, should not be included in the list because they were significantly dependent upon Alcoa and Reynolds for SGA purchases.

The Commission's analysis showed clearly that by acquiring Reynolds Alcoa would eliminate the most reliable and independent SGA competitor.

4.4.8 Efficiency gains

[201] The issue will be examined in more detail in the chapters to follow.

Efficiency gains were not examined in *Alcoa/Reynolds*. According to Alcoa, the firm was expecting from the merger synergies of approximately US$300m by 2002, of which US$80m, on an annualised basis, was set to come from the Richmond, Virginia, site of the Reynolds's headquarters, where personnel would be reduced from 808 to 108[202].

Efficiencies in the framework of the ECMR could be examined, as explained in chapter three, under Article 2(1)(b), which authorises the Commission to take into account "...the development of technical and economic progress provided that it is to consumers' advantage and that does not form an obstacle to competition". However, the Commission's practice regarding efficiencies has been nebulous leaving sometimes the impression that the Commission is hostile against them, while according to some views efficiencies have played a role in several past cases under the ECMR[203]. However, thus far there has been no case where an otherwise anticompetitive merger was cleared on efficiencies grounds.

The adoption in the ECMR of a new substantive test, which more clearly allows for efficiencies considerations[204], along with the adoption of an analytical framework on efficiencies in the Commission guidelines on the assessment of horizontal mergers[205] set the stage for a formal examination of efficiencies in future cases.

According to the guidelines, which follow a policy largely similar to the 1992 US merger guidelines[206], efficiencies should cumulatively be beneficial to consumers, merger-specific and verifiable[207]. Regarding benefits to consumers, the relevant benchmark is that consumers should not be worse off after the merger and therefore efficiencies should be substantial and timely seeking to benefit consumers in the market where the competitive concerns arise[208]. Thus, the EU policy accepts the consumer and not the total welfare standard for the examination of efficiencies[209].

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[202] See Christopher Bowe and Nikki Tait "Aluminium: At a crossroads after acquisitions: Alcoa", in FT Survey: *Aluminium 2000*, October 25, 2000.

[203] A good analysis of past and current trends in EC merger control with respect to efficiencies can be seen in a recent Article by Christopher Luescher "Efficiency Considerations in European Merger Control- Just Another Battle Ground for the European Commission, Economists and Competition Lawyers " 25 *E.C.L.Rev.* 2004, 72. See also chapter 3.

[204] See also chapter 3.

[205] Paras.76-88 of the guidelines.

[206] See also in the next chapter where the EU and US policies concerning efficiencies are considered.

[207] *Ibid.* para.78.

[208] Para.79 of the guidelines.

[209] On the issue Mario Monti "Merger Control in the European Union: a Radical Reform", Speech in the IBA Conference on European Merger Control, Brussels, November 7, 2002. About consumer and total welfare models see in the analysis of efficiencies in the US in the next chapter.

Merger-specific efficiencies are those that are the direct consequence of the merger and cannot be achieved to a similar extent by less anticompetitive alternatives[210]. "Verifiable" are those efficiencies for which the Commission "...can be reasonably certain that [they] are likely to materialise and be substantial enough to counteract a merger's potential harm to consumers"[211]

Also, the guidelines stress that the greater the possible negative effects to competition the more the Commission has to be sure that the claimed efficiencies are substantial, likely to be realised, and to be passed on, to a sufficient degree, to the consumer[212]. However, efficiencies are unlikely to counteract the anti-competitive effects of the merger if these effects concern the creation of monopoly or a situation similar to it[213].

Although the efficiencies' doctrine of the Commission has not been tested in practice yet, the decision to formally incorporate efficiencies in the analysis of mergers under the ECMR was correct and closed an existing gap in the legislation.

In *Alcoa/Reynolds* issues of significant efficiencies were not raised. The amount of US$300m from cost savings proposed by Alcoa for the period of 2000-2002 would be rather immaterial given that the merged firm would have annual sales of approximately US$20billion[214]. In addition, the largest part of these savings would come, according to Alcoa, from reductions in administrative costs through reduction of personnel in Reynolds's headquarters, which constitute fixed costs. Economic theory has suggested that fixed costs likely result in price increases post-merger than in price reductions[215]. For this reason, the Commission guidelines provide that efficiencies leading to reductions in variable and marginal costs are more likely to preferable to reductions in fixed costs[216].

As a result, and given that neither the EU or the US decisions expressly referred to efficiency gains in *Alcoa/Reynolds* it could be assumed that the merger would not create any significant efficiencies, which constituted additional evidence against the

[210] Para.85 of the guidelines.
[211] *Ibid.* para.86.
[212] *Ibid.* para.84.
[213] *Ibid.*
[214] Source: US decision.
[215] See European Commission *The Efficiency Defence and the European System of Merger Control*, Directorate-General for Economic and Financial Affairs, 2002, 51.
[216] See para.80 of the Guidelines.

merger. According to the economic theory, a merger that produces no or even limited merger-specific efficiencies is likely to result in higher prices[217].

4.4.9 Conclusions on the competitive assessment

The Commission's analysis in *Alcoa/Reynolds* is a classical example of a single dominance case under the ECMR, which is also captured by the new substantive test of the Regulation. However, apart from single dominance the interest in this case concerns also certain other issues, particularly to the risk of coordinated effects.

A potential flaw in the Commission's analysis concerned the fact that coordinated effects were not examined. This thesis carried out a detailed analysis of how *Alcoa/Reynolds* merger could result also in such effects. For the Commission's failure to address the issue in this case the thesis concluded that the main cause was in the application of the dominance test which was focused more on dominant oligopolies comprising only a limited number of big firms, mostly only two. Thus, cases of broad oligopolies, such as that in the SGA market, seemed to have been given limited attention. Another reason, which will be examined in more details in subsequent chapters, concerns the fact that the dominance text provided for the establishment of either single or collective dominance in the same merger and not both. However, the analysis of the SGA market showed that in certain broad oligopolies the market conditions may facilitate collusion and failure by the Commission to deal with these cases could mean that the competitive assessment did not identify all the competitive effects of the merger.

As for the methods of analysis followed by the Commission in *Alcoa/Reynolds* they included apart from reference to standard structural factors, such as market shares and concentration, also strategic behaviour, which refers also to dynamic analysis and which concerned Alcoa's ability to prevent entry and expansion of competitors by acting strategically. The advantage of dynamic analysis is that it goes deep into the market by focusing on firms' behaviour. Such an analysis generally produces more reliable competitive assessments but, on the other hand, it is more difficult to materialise. In the analysis of the US decision in the next chapter, the

[217] See Joseph Farrell and Carl Shapiro "Horizontal Mergers: An Equilibrium Analysis" *Am.Econ.Rev.* March 1990, 107, 112.

thesis will present another method of dynamic analysis of competition focusing on maverick firms.

4.5 The Commitments

To address the Commission's competitive concerns the parties offered certain commitments consisting in the divestiture of Reynolds's 56% stake at Worsley and Reynolds's 50% stake in the refinery of Stade, Germany. The Commission considered these commitments sufficient to restore competition in the SGA merchant market because the capacity divested was considerably more than the tonnage of SGA sold by Reynolds on that market. The Commission further stressed that the sale of Worsley would also eliminate the overlap in the lowest-cost SGA refineries and that the refinery had very good expansion opportunity of at least a further 400,000t if not 900,000t, whereas it was located in a geographic area with low country risk. Thus, the two undertakings proposed by the parties were capable of restoring the level of competition that existed prior to the merger.

4.5.1 Competitive issues and comments

The basic principles applied by the Commission when examining parties' commitments under the ECMR can be seen in the Commission Notice on Remedies[218].

According to the Notice, the parties are required "...to show clearly...that the remedy restores conditions of effective competition in the common market on a permanent basis"[219]. Further, from several Notice's provisions[220] and public comments of EU officials[221] it follows that the preferred remedy is for the divestiture of a viable stand-alone business, which ensures that "competition is restored to the

[218] Notice on Remedies acceptable under Council regulation (EEC) No 4064/89 and under Commission Regulation (EC) No 447/98, [2001] OJ C68/3 ("Notice on Remedies"). The Notice is expected to change in the near future to be in line with the new substantive test of the ECMR. However, big changes in the Commission practice should not be expected.

For more details on the Commission's policy regarding remedies see also in the chapter 3 of the thesis.

[219] *Ibid.* para.6.

[220] Paras. 9,13,14,17 and 18 of the Notice.

[221] See speech by the Commissioner for Competition Mario Monti "The Commission Notice on Merger Remedies-one year after" CERNA, Paris, January 18, 2002, available on the website of European Commission.

market either by the emergence of a new independent competitive entity or by the strengthening of an existing competitor"[222].

In practice concerning divestiture, which was the case in *Alcoa/Reynolds*, the Commission normally requires the divestiture package to be transferred to a "suitable" purchaser approved by it. Such a purchaser must be "...a viable existing or potential competitor, *independent of and unconnected to the parties*, possessing the financial resources, proven expertise and having the incentive to maintain and develop the divested business as an active competitive force in competition with the parties" [italics added][223]. The Commission normally awards great importance to suitable buyers and therefore often connects the approval of the merger to the finding of such a buyer by the parties[224].

Regarding SGA, therefore, divestiture should be sufficient to address the Commission's concerns about the establishment of a dominant position as a result of *Alcoa/Reynolds* merger.

The divestitures of Reynolds's stake at Worsley and Stade refineries seemed to have solved the structural problem, since with those divestitures all Reynolds's merchant SGA production would be sold to a third party. As a result, the market share of Alcoa in the merchant market would return to its pre-merger level, thus eliminating the risk of the establishment of a dominant position. Moreover, given that the two refineries were producing also SGA for Reynolds's captive use, Alcoa post-merger would be forced to capture extra SGA, otherwise sold to the merchant market, for internal use. Thus, Alcoa's market share in the merchant market would be further reduced.

Further, as the Commission stressed, Worsley could be further expanded by at least 400,000t, which meant that the new owner would have even more bottom-cost SGA available for sale. The sale of Worsley to a third party would therefore prevent Alcoa from raising prices in bidding contracts. Thus, one could argue, that Worsley was the stand-alone business required by the Notice and which would enable a "suitable" buyer to compete effectively against Alcoa, as Reynolds did.

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[222] See Mario Monti *ibid.*; also Simon Holmes and Sarah Turnbull "Remedies in Merger Cases: Recent Developments" 23 *E.C.L.Rev.* 2002, 499, 503.

[223] Para 49 of the Notice.

[224] See also Antoine Winckler "Some Comments on Procedure and Remedies under EC Merger Control Rules: Something Rotten in the Kingdom of the Merger Control?" 26 *World Competition* 2003, 219, at 225-226 (citing recent cases where the Commission examined up-front buyers).

The next step was to find a "suitable" buyer for the divested assets, which would be "independent to and unconnected of the parties" and capable of competing effectively. Finding a suitable buyer was important for the restoration of competition not only quantitatively but also qualitatively, since Reynolds had been in the past independent from Alcoa. Establishing an independent competitor would also help to eliminate the risk of coordinated effects in the SGA market post-merger. Even if the Commission did not find such effects in *Alcoa/Reynolds,* the establishment of a new independent competitor would indirectly help also in this respect because that competitor would be capable of disrupting coordination in the SGA market, as Reynolds did.

The wider possible list of buyers would include Kaiser, Glencore, Nalco, Alcan (Algroup), the Guinean government, the Jamaican government, Billiton, Pechiney and the categories of SGA traders and of independent smelters. The most of the above firms were the largest existing SGA players according to table 1, while the remaining were SGA traders and independent smelters, namely SGA buyers. From the above list should be excluded for obvious reasons the Guinean government and the Jamaican government, Indian Nalco, which was also a state-owned company, and Kaiser, which was facing financial and other difficulties.

Regarding independent smelters, if one of them were to acquire Worsley, the SGA produced there would be used for internal purposes and such a potential would be of no benefit for the merchant SGA market. Instead, the new owner by becoming vertically integrated would seek higher SGA prices to harm non-integrated competitors. The same would hold for Alcan (Alusuisse) and Pechiney, which were also vertically integrated[225].

The two remaining firms were Billiton and Glencore. Regarding Billiton, it was Reynolds's partner in Worsley, and simultaneously partner with Alcoa in two refining joint ventures in Surinam and Brasil where Alcoa had controlling stake. Thus, even if Billiton after the acquisition of Worsley had the ability to compete effectively, it is doubtful if it would have the incentive to do it. The participation in joint ventures with Alcoa made the firm connected to the latter and therefore Billiton could not be deemed a "suitable" buyer. Regarding Glencore, the firm was according to the

[225] As mentioned in the analysis of the case above the Commission in its decision found that vertically-integrated firms had interest in higher SGA prices that would harm SGA buyer, with whom integrated firms were competing downstream.

Commission's analysis partly dependent upon Alcoa and other suppliers for its trading activities. The acquisition of Worsley would strengthen the firm's position in SGA merchant market and might make it more independent.

The above references to possible buyers show that it would be difficult for competition authorities to find a suitable buyer for Reynolds assets. Although it is unknown how many and which firms finally showed interest for buying Worsley, the new owner of the refinery was finally, Billiton the minority shareholder there[226]. The firm was entitled according to an agreement with Reynolds to bid for the latter's stake and Billiton exercised this right.

The approval of Billiton as a suitable buyer was controversial mostly due to the existence of the above-mentioned ties between that firm and Alcoa even if Billiton was in good position to effectively run Worsley. However, the cooperation with Alcoa was indisputable and this raised questions on whether Billiton would have sufficient incentive to effectively compete against Alcoa as Reynolds did. At least the Commission could have sought to sever ties between the two firms in the joint ventures. However, the good relationship between Alcoa and Billiton was confirmed one year after *Alcoa/Reynolds* deal when the two firms agreed to merge their metal distribution businesses in North America[227].

4.5.2 Conclusions

The *Alcoa/Reynolds* decision concerning remedies in the SGA market revealed an aspect of the problem in the selection of the appropriate buyer in the divestiture process. Given that divestiture is the main remedy in merger control, competition authorities should give very close attention to the selection of the appropriate buyer. They should remember that effective merger control does not mean only proper identification of the competitive problem but also proper restoration of effective competition, otherwise merger control will fail to protect competition and consumers. And proper restoration in this respect means not only quantitative restoration of competition but also qualitative.

[226] See Bob Regan "Billiton to Buy Alcoa's Stake in Worsley for $1.49B" *American Metal Market*, August 30, 2000.
[227] See "Alcoa's Distribution Unit Completes Merger with BHP Billiton" Pittsburgh Business Times, November 1, 2001.

In the SGA market competition was restored quantitatively, since Alcoa's market share returned to its pre-merger level but it is questionable whether competition was restored also qualitatively, since the buyer of the crucial divestiture asset, was not as independent competitor as Reynolds was.

Another more general conclusion arising from this case is that remedial decisions are dependent on the competitive assessment. If the competitive assessment fails to fully identify the competitive effects of the merger, the remedial decision will also fail[228]. If, for instance the Commission for SGA had established also coordinated effects as a result of Alcoa/Reynolds merger, it might have been more careful in its decision to approve Billiton as a buyer of the divested assets, because such a move would not have solved the coordination problem.

[228] A good example of a merger which clearly shows how closely related the competitive assessment and the decision of the remedies are, is *SEB/Moulinex* [Case IV/M.2621, *SEB/Moulinex* (Decision of 8/1/2002)]. In that case the Commission cleared the merger in Phase I subject to commitments with respect to certain markets outside France. The CFI which reviewed the case following the filing of an appeal by the Babyliss SA, (Case T-114/02 *Babyliss SA v. Commission* [2003] ECR II-1279; [2004] 5 CMLR 1) annulled the Commission's decision for its part dealing with certain markets outside France for which the Commission had not imposed any commitments to the parties. (From all the European markets outside France the Commission had imposed commitments only in certain of them, while for the rest it imposed no commitments). The Commission for those markets had justified its decision not to impose any commitments on grounds that the merger would change competition only marginally. However, the CFI rejected this justification on grounds that it was based on an improper application of the theory of range effects and ruled that the Commission erred when refused to establish serious doubts as to the compatibility of the merger in these markets.

CHAPTER 5

SGA market: the US decision

5.1 Introduction

The *Alcoa/Reynolds* merger was also reviewed by the US Department of Justice (DOJ) which, in respect of the SGA market, concluded that the merger would "substantially lessen competition" by resulting in both unilateral and coordinated effects.

This chapter contains a detailed analysis of the US decision and also extensive comparisons between the framework and application of substantive merger control in the US and the EU. Such analysis and comparisons help to clarify the similarities and differences in the application of merger control in the two jurisdictions, which in turn help to assess the latest developments with the introduction of a new substantive test in the Merger Regulation of the EU.

The adoption of the US substantial-lessening-of-competition (SLC) test had been proposed as a replacement of the dominance test in the EU but such a solution was finally not adopted. This thesis by analysing the practical application of the SLC test seeks to clarify basic issues about this test, to show the differences with the dominance test, as well as to assess the final EU decision not to adopt the SLC test for its merger control.

In addition, the inclusion of a detailed analysis of the US test into this thesis, serves several other of the thesis's aims. First, the US agencies, as will be seen in the analysis, make a more extensive use of dynamic analysis in the assessment of the competitive effects of mergers, while, compared with the European Commission, they follow a more flexible approach to a number of issues, such as the market definition and the assessment of oligopolies. This offers support to the thesis's general argument that the application of merger control by the European Commission should become in the future more flexible and use more often dynamic analysis, which will not rely for establishing competitive harm only on market shares and concentration but will search deeper into the competitive effects of the merger by analysing apart from general market conditions also the behaviour of firms.

Second, as will be shown, the US agencies for assessing the competitive effects of mergers rely only on the results of the application of vigorous economic methodologies, which produce quantitative evidence, while the European Commission traditionally takes into account also qualitative factors. The thesis by analysing these apparently different US and EU approaches to merger analysis seeks to assess, which of these approaches best serves the scope of the protection of effective competition and consumers.

Lastly, given that the thesis focuses on difficult issues of merger control, such as the product differentiation, the oligopoly problem and the remedies, it is useful to see how another jurisdiction deals with these issues. This would help drawing conclusions not only for the current effectiveness of EU merger control, but also for the adoption of appropriate measures to improve its effectiveness in the future.

5.2 Merger control in the US: agencies, judicial review, framework and procedures.

5.2.1 The agencies and the role of courts

Merger control in the US is exercised primarily by two federal agencies: the Department of Justice ("DOJ") and the Federal Trade Commission ("FTC"), which share jurisdiction regarding the assessment of notified mergers. The two agencies are separate organisations but in 1992 they issued for the first time a joint statement, the 1992 Revised Merger Guidelines, where they established common criteria for the review of horizontal mergers.

The Antitrust Division of the DOJ is headed by an assistant Attorney General appointed by the US President for an indefinite period. It is responsible for enforcing the Sherman Act[1] and, jointly with the FTC, the Clayton Act[2]. The Antitrust Division has the authority to investigate and prosecute mergers that have been determined to be

[1] 15 U.S.C. .§§ 1-7.
[2] 15 U.S.C. .§12-27.

anticompetitive[3]. The DOJ does not have the authority to block a merger on its own. It must commence an action to temporarily or permanently enjoin the merger under the applicable statute in a federal district court[4].

The FTC is an independent regulatory agency headed by five Commissioners[5] appointed by the President for seven years and has authority to enforce the Clayton Act, as it relates to mergers and other antitrust issues. Unlike the DOJ, the FTC has full authority to investigate, prosecute and adjudicate applications for merger approval[6]. The Office of Administrative Law Judges adjudicates the approval or denial of pre-notification merger applications. A decision of an administrative law judge in favour of the prosecuting arm of the FTC –thus rejecting the merger- can be appealed first to the full commission and then to a federal appeals court[7]. However, following the entry into force of the Hart-Scott-Rodino Act (HSR), which established a pre-merger notification system and provisions for preliminary or permanent injunctive relief before a federal court[8], the FTC, in order to block the implementation of a merger notified to it in accordance with the HSR, has first to seek injunctive relief in a federal district court to prevent the consummation of the transaction pending administrative proceedings[9]. If the federal court issues an injunction and it is upheld by a federal court of appeals, the parties may choose to abandon the deal or, instead, may proceed to litigate the matter in administrative hearings before the FTC. If the court refuses to issue an injunction then the parties will consummate the deal and the FTC will decide whether to begin litigation before its own administrative law court to seek a divestiture order against the newly combined businesses[10].

From the above analysis it becomes clear that in the US the federal courts have the final say with respect to the prohibition of mergers. If the courts refuse to issue the injunction, the agencies can seek a full judgment of the case by the District Court and,

[3] See J. William Rowley & Donald I. Baker, *International Mergers: The Antitrust Process,* Sweet & Maxwell., 1991, 464.
[4] 15 U.S.C.§ 25. See also Diane P. Wood "A Comparison of Merger Review and Remedy Procedures in the United States and the European Union" in -Leveque Francois and Shelanski Howard (Ed.), *Merger Remedies in American and European Union Competition Law,* Edward Elgar (Publ.), 2003, 67, 69.
[5] These Commissioners cannot be removed except "for cause" (They may only be removed for "inefficiency, neglect of duty, or malfeasance in office". *Humphrey' s Ex'r v United States,* 295 U.S. 602, 623 (1935))
[6] Rowley & Baker *op. cit.* 3.
[7] 15 U.S.C. § 45(c).
[8] 15 U.S.C. §18a.
[9] The ability of FTC to seek preliminary or permanent injunctive relief is founded in section 13(b) (15 U.S.C. § 53(b)) of Federal Trade Commission Act. See also Thalia Lingos "Transparency of Proceedings at the United States Federal Trade Commission" in *Procedure and Enforcement in E.C. and U.S. Competition Law* (Piet Jan Slot and Alison McDonnell Ed.), Sweet & Maxwell, 1993, 203, at 211-212.
[10] See also Lingos *ibid.*

following an appeal, by the Court of Appeals[11]. The US Supreme Court has not decided a merger case on its merits since 1974. However, a full judgment of the District Court or of the Court of Appeals is very rare since the injunction decision is usually accepted by both sides as the final say of the case[12]. In most cases anticompetitive mergers are settled at the administrative level with the settlement agreement between the parties and the agencies taking the form of a consent degree, which is then taken to the Court for approval. However, in the most of these cases, as will be shown below, the Court gives its approval without examining in depth the details of the settlement.

As a whole, in practice the US merger control system is not very different than that of Europe, since the US merger policy, like in Europe, is almost exclusively in the hands of competition agencies and not of the courts.

5.2.2 The legal framework

Section 7 of Clayton Act (15 U.S.C. § 18) constitutes the primary statutory basis for the review of mergers and acquisitions. Section 7 prohibits a corporation "engaged in commerce" from acquiring the stock or share capital or assets of another corporation where the effect of the acquisition "may be substantially to lessen competition, or to tend to create a monopoly". Section 7 establishes an express right of the federal government to challenge a merger or acquisition that is likely to lessen competition substantially or to create a monopoly[13].

Merger transactions may also fall within Section 1 of Sherman Act (15 U.S.C. 1) which prohibits "contracts, combinations, or conspiracies in restraint of trade"[14], Section 2 of the Sherman Act, which prohibits monopolisation, attempted monopolisation and conspiracies to monopolise[15] and Section 5[16] of the Federal Trade Commission Act (15 U.S.C. 45), which prohibits "unfair methods of competition" and "unfair acts or practices"[17].

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[11] Emil Paulis "Checks and Balances in the EU Antitrust Enforcement System" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2002, 381, 393.
[12] *Ibid.*
[13] See also William Dolan "Acquisitions & Mergers" 1371 *PLI/Corp* 2003, 901, at 905.
[14] See e.g. *United States v. First National Bank & Trust Co.*, 376 U.S. 665, 671-672 (1964).
[15] See e.g. *United States v. Grinnel Corp.*, 384 U.S. 563, 575-576 (1966)
[16] See e.g. *Am. Medical In'l, 104 F.T.C.* 1, 110 (1984).
[17] See Yvonne Quinn, Merger Analysis" 1252 *PLI/Corp* 2001, 1009, 1014.

In addition to the above statutes, several sets of guidelines have been introduced and are used in merger analysis. Most important are the 1992 Horizontal Merger Guidelines ("the Guidelines" or "US Guidelines"), dealing with horizontal mergers and the 1984 Merger Guidelines ("1984 Guidelines"), which were issued by the DOJ and which continue to regulate non-horizontal mergers. In 1993 the National Association of Attorneys General issued a set of uniform Merger Guidelines[18]. Although all those guidelines are not binding on the courts[19], they are widely used by the enforcement agencies, which deal with a vast amount of cases as opposed to the courts, which review only a small number. Hence, the guidelines have become the basic tools of merger enforcement in the US.

5.2.3 The procedures followed by the DOJ for anticompetitive mergers.

If the DOJ finds that a merger, such as *Alcoa/Reynolds*, gives rise to anticompetitive effects, it will bring the case before a District Court[20] by filing a Complaint[21], signed by the Assistant Attorney General of the DOJ acting on behalf of the United States and which requests the court to block the merger because it violates (usually) Section 7 of Clayton Act. The DOJ also, after negotiating with the notifying parties, files in court for the settlement of the case a consent decree, which consists of a proposed Final Judgement[22] and a "Hold Separate Stipulation and Order"[23] documents, and publishes them in the Federal Register. The proposed Final Judgement sets the conditions for the approval of the transaction referred to in the Complaint, which have also the consent of the parties against whom the case was filed. The conditions largely refer to divestiture of assets. The "Hold Separate Stipulation and Order" document, signed by both the plaintiff and the defendant applies to ensure that the Divestiture Assets "shall be maintained and operated as independent, economically viable and active competitors[24]" in the markets until the divestiture process is completed.

[18] 256 Trade Reg. Rep Supp. (CCH) March 30, 1993.
[19] See e.g. *FTC v. PPG Indus.*, 798 F. 2d 1500, 1503 n.4 (D.C. Cir. 1986).
[20] See Section 15 of the Clayton Act 15 U.S.C. § 25.
[21] 15 U.S.C. § 16. Even if there is an extra-judicial settlement between the agencies and the notifying parties the case cannot be formally closed before it is brought to the court through the filing of a Complaint document by the DOJ and the court approves the settlement as being "in the public interest". (See below)
[22] See *ibid.*
[23] See *ibid*
[24] See "United States' Response to Public Comments" in *Alcoa/Reynolds* Case, p.2.

After the filing of the Complaint and the consent decrees and in accordance with the Tunney Act the DOJ must also prepare a Competitive Impact Statement (CIS)[25], which will contain analysis of the competitive concerns caused by the merger, explanation of the proposed settlement and a reference to and assessment of alternative solutions. The CIS must also be published in the Federal Register thus initiating a period of at least 60 days for public comments[26] on the proposed Final Judgement. A Response to these comments by the "United States" is also to be filed with the Court and to be published in the Federal Register.

Next, the plaintiff after issuing a Certificate of Compliance[27], which will state that all the requirements of the Tunney Act have been satisfied, will pass the case to the Court, which will decide, after taking into account all the above, whether the proposed Final Judgement is "in the public interest"[28] and if so will enter into the Final Judgement or else it may put the case to trial[29].

Regarding public interest, the court's function "...is not to determine whether the resulting array of rights and liabilities is one that will best serve society, but only to confirm that the resulting settlement is within the reaches of the public interest"[30]. The Court will examine the Final Judgement "in light of the violations charged in the complaint and...withhold approval only (a) if any of the terms appear ambiguous, (b) if the enforcement mechanism is inadequate, (c) if third parties will be positively injured or (d) if the decree makes a "mockery of judicial power"[31].

As for the remedies proposed in the Final Judgement the Court is not authorised by the Tunney Act to reject them or to impose different ones on the parties[32].

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[25] 15 U.S.C. § 16. The Tunney Act was amended in 2004.
[26] See *ibid.*
[27] See *ibid.*
[28] See *ibid.*
[29] See Thomas Kauper "The Use of Consent Decrees in American Antitrust Cases" in *Procedure and Enforcement in E.C. and U.S. Competition Law,* (Piet Jan Slot and Alison McDonnell Ed.), Sweet & Maxwell, 1993, 104, at 106.
[30] *United States v. Western Elec. Co.,* 993 F.2d 1572, 1576 (D.C. Cir.), *cert. Denied,* 510 U.S. 984 (1993); See also "United States Response to Public Comments" in *Alcoa/Reynolds* Case: The Court "should evaluate the relief set forth in the proposed final Judgement if it falls within the government's rather broad discretion to settle with the defendant within the reaches of the public interest" [quoting *United States v. Microsoft Corp.,* 56 F.3d 1448, 1461 (D.C. Cir. 1995); *accord United States v. Associated Milk Producers,* 534 F.2d 113, 117-18 (8th Cir.), *cert. denied,* 429 U.S. 940 (1976)]. On the issue see also Kauper *ibid.* at 111.
[31] *Massachusetts Sch. Of Law at Andover, Inc. v. United States,* 118 F.3d 776, 783 (D.C. Cir. 1997). However, it seems that the legal standard of "public interest" under the Tunney Act remains vague and controversial. For more details on the issue see Lloyd C. Anderson "United States v. Microsoft, Antitrust Consent Decrees, and the Need for a Proper Scope of Judicial Review" 65 *Antitrust L.J.,* 1996, 1. The Tunney Act was amended in 2004, imposing certain changes on the courts' approach to the "public interest" when examining consent degrees.
[32] *Microsoft,* 56 F.3d at 1460; *United States v. American Tel. & Tel. Co.,* 552 F. Supp. 131,153 n. 95 (D.D.C. 1982) ("AT&T"), *aff'd sub nom. Maryland v. United States,* 460 U.S. 1001 (1983) (mem).

5.3 Substantive merger control in the US and the EU: some preliminary observations

A central issue of debate between European competition scholars and legislators, particularly after the publication of the CFI's decision in *Airtours,* had been around the potential of replacing the dominance test of the ECMR with the US-oriented substantial-lessening-of-competition test ("SLC")[33].

Before examining in detail the SLC test and comparing it with the EU dominance test and the newer SIEC test some preliminary comments should be made.

First, the SLC test, as mentioned above, is founded on the Clayton Act, which was adopted in 1914 and amended in 1950, and particularly on section 7, which prohibits mergers and acquisitions whose effects "may be substantially to lessen competition or to tend to create a monopoly"[34]. The language is broad and, therefore, the role of its interpretation rests with competition agencies and the courts. During the 1960s and early 1970s, the test was interpreted as meaning to "nip in the bud" mergers that threatened anticompetitive effects, including those that significantly increased concentration[35]. The interpretation made the merger law so prohibitive that the US antitrust agencies and the courts soon considered it more appropriate to shrink the scope of the law. They did so gradually through guidelines and case law, which now prohibit only those mergers that significantly increase market power to the detriment of consumers[36].

Thus, according to the latest 1992 Horizontal Merger Guidelines, mergers "should not be permitted to create or enhance market power or to facilitate its exercise"[37]. Market power, which according to the guidelines could be exercised either by a single firm acting unilaterally or by a few firms acting in coordination, is

[33] See e.g. Ulf Boge and Edith Muller "From the Market Dominance Test to the SLC Test: Are There any Reasons for a Change" 23 *E.C.L.Rev.* 2002, 495; Eleanor Fox "Collective Dominance and the Message from Luxembourg" 17-Fall *Antitrust,* 2002, 57; also the European Commission in its Green Paper on the Review of Council Regulation (EEC) No. 4064/89 COM (2001) 745/6 raised the question of whether it would be appropriate to change the basis against which mergers are assessed from a dominance test to a test of "substantial lessening of competition".
[34] 15 U.S.C.§18.
[35] See Eleanor Fox "Competition Law" in Andreas F. Lowenfeld, *International Economic Law,* Oxford, 2002, at 362-3; Robert Pitofsky "Proposals for Revised United States Merger Enforcement in a Global Economy" 81 *Geo.L.J.* 1992, 195, 196-198.
[36] See also Fox *ibid.*
[37] § 0.1; see also William M. Landes, Richard A. Posner "Market Power in Antitrust Cases" 94 *Harvard Law Review* 1981, 937; Richard A. Posner *Economic Analysis of Law* (4th ed.) Little Brown and Co., 1992, 299.

defined as "the ability profitably to maintain prices above competitive levels for a significant period of time"[38]. Similarly, the US courts have defined market (monopoly) power as the power to control prices or to exclude competition[39]. The guidelines refer also to lessening of competition on "dimensions other than price, such as product quality, service and innovation"[40].

Compared with the SLC the European dominance test appears different. According to the legal definition given by the ECJ[41], a dominant position contains two elements: the ability to prevent effective competition and the ability to behave to an appreciable extent independently from competitors, customers and consumers[42]. However, these two elements translated into economic terms constitute nothing more than illustrations of market power. The ability to act independently on the market appears reflective of the economists' concept of power over price, which means the ability of a firm or firms to increase price above the competitive level by restricting output[43]. Effective competition from an economics perspective means that no firm either acting individually or in coordination is able to exercise market power[44] and from this it could be extracted that the ability to prevent effective competition means exactly the ability to exercise market power.

From all the above it could be inferred that SLC and dominance tests converge significantly on the issue that market power is the main source of concern and that a firm or group of firms should not be allowed to exercise it. The only difference between the two tests in this respect is that such a conclusion could be more clearly derived from the SLC than from the dominance test, at least judging from the definition of dominance given by the ECJ[45].

However, a more significant difference between the two tests is on the applicable methods for measuring market power: the dominance test relies on a structural approach to merger analysis by placing more weight on market definition and market

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[38] § 0.1
[39] See *Standard Oil Co of New Jersey v. United States*, 221 US 1 (1911); *United States v. E I Du Pont de Nemours & Co*, 351 U.S. 377 (1956); *United States v. Grinnell Corp.*, 384 U.S. 563 (1966).
[40] §0.1 n.6.
[41] Case 27/76 *United Brands v. Commission* [1978] ECR 207, [1978] 1 CMLR 429.
[42] For more details on the issue see in the previous chapter.
[43] See Richard Whish, *Competition Law*, (4th Ed.), Butterworths, 2001, 163; Valentine Korah, *An Introductory Guide to EC Competition Law and Practice*, (7th Ed.), Hart Publishing, 2000, at 3.2.
[44] See Simon Bishop and Mike Walker, *The Economics of EC Competition Law*, (2nd Ed.) Sweet & Maxwell, 2002, at 6.08.
[45] However, as Jones and Sufrin point out about the dominance test the term 'dominant position' should relate to the adverse consequences, which result when an undertaking has market power (see Alison Jones and Brenda Sufrin, *EC Competition Law*, (2nd Ed.) Oxford University Press, 2004, 261).

shares, which make it more rigid and less flexible, while the SLC test is less dependent on structural analysis, which makes it more flexible[46]. Also, under the dominance test, the role of efficiencies appears to be negligible or at least limited, while, in US, efficiencies constitute standard tools of merger analysis.

However, even these differences do not arise so much from the different economic methodologies applied by the two jurisdictions but mostly from different policy considerations. This is so, partly because economics has not thus far provided any effective and widely accepted test for determining that crucial level where the market power possessed by a firm or firms turns anticompetitive. All the existing tests only provide measurements of market power and as a result, it is up to competition authorities to determine the critical level obviously taking into account the policies and objectives pursued by competition law in the specific jurisdiction.

This was well summarised by B.E.Hawk[47]: "Economics provides a variety of tools to measure degrees of market power....[b]ut it does not define –except at the extreme- at what point that market power becomes 'monopoly power'...Thus, economics does not provide the means to resolve the essentially legal question whether the market power of a firm is essentially great to constitute a 'dominant position' or 'monopoly power'... 'Dominant position' and 'monopoly power' are legal constructs based on political considerations which suggest where the line should be drawn between acceptable monopoly power and suspect monopoly power".

A mere reference to the history of the EU and US tests shows how policy considerations have played a role in the application of these tests. Thus, in the US the SLC test had been used to support "by far the most stringent anti-merger policy in the world"[48] in the 1960s when violations of competition had been found in mergers with combined market shares as low as 4.5%[49]. By the 1980s the same test "properly" applied supported an "extremely lenient merger policy", regularly allowing billion dollar mergers to go through without government challenge, even when they involved direct competitors[50], while in the 1990s following the publication of the 1992 merger

[46] See also Bishop and Walker *op.cit.*44, 7.100-7.104.
[47] See B.E. Hawk *United States, Common Market and International Antitrust: A Comparative Guide*, (2nd Ed.), Aspen Law & Business, 1990, 788-789.
[48] See Pitofsky, *op.cit.*35, 195.
[49] See e.g. *United States v. Pabst Brewing Co.*, 384 US 546, 550 (1966) (combined market shares of 4.5% in one market where violation was found); *United States v. Von's Grocery Co.*, 384 US 270, 281 (1966) (horizontal merger where combining firms had market shares of 4.7% and 4.2% respectively).
[50] See Robert Pitofsky *op.cit.*35, 195; also Thomas G. Krattenmaker and Robert Pitofsky "Antitrust Merger Policy in the Reagan Administration" 33 *Antitrust Bull.* 1988, 211, 213.

guidelines the rule is that the law prohibits only those mergers that significantly increase market power to the detriment of consumers[51]. Thus, in US during all these decades, while the legal test remained apparently the same –mergers are still prohibited if they substantially lessen competition or tend to create a monopoly- its content and scope significantly changed.

The same could be said about the dominance test. In particular, while the wording of Article 2 of the Merger Regulation remained until recently unchanged –"a concentration which creates or strengthens a dominant position as a result of which effective competition would be significantly impeded in the common market or in a substantial part of it shall be declared incompatible with the common market"- its meaning and scope have significantly changed. Thus, while the test was initially thought of as applying only to single-firm dominant positions[52], this changed later when it was ruled that collective dominant positions were also within its scope[53]. Further, whilst the collective-dominance concept was for a long period synonymous to duopoly[54], this again changed following the Commission's decision in *Airtours/First Choice*[55], which established collective dominance by three firms. Even if the CFI's decision in *Airtours* annulled the Commission's analysis and was the main reason for the alteration of the substantive test of Merger Regulation, this alteration was not so much the result of the inability of the dominance test to deal with all the anticompetitive effects as it was to remove the legal uncertainty concerning non-collusive oligopolies following the Court's decision[56].

However, even prior to the latest developments in the EU, the abovementioned changes in the meaning and scope of SLC and dominance tests -made by competition agencies and supported by domestic courts- along with the daily practice in merger control had already led to significant convergence in the scopes of the two tests[57],

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[51] See Fox *op.cit.*35.
[52] See also Jones and Sufrin *op.cit.*45, 932-3.
[53] Although European Commission had from its earlier decisions under C.R.4064/89 established that the Regulation was applicable also to collective dominance situations (see e.g. case IV/M.190 *Nestle/Perrier* [1992] OJ L356/1, [1993] 4 CMLR M17) the issue was not completely resolved until the ECJ' s decision in *Kali & Salz* case, where the court accepted the extended application of the dominance test because otherwise the regulation would be "deprived of a not insignificant aspect of its effectiveness" (Cases C-68/94 and C-30/95 *France v. Commission, Societe Commerciale des Potasses et de l'Azote v. Commission* [1998] ECR I-1375, [1998] 4 CMLR 829).
[54] See e.g. the Note by Europe Economics "One' s a Monopoly, Two' s Collectively Dominant, Three' s Alright?", 2002.
[55] Case IV/M.1524 OJ [2000] L93/1, [2000] 5 CMLR 494.
[56] The recent developments regarding the substantive test of Merger Regulation are discussed in more details in other chapters of the thesis.
[57] This was recognised by the former US Deputy Assistant Attorney General William Kolasky: "...to date...we have generally reached consistent results on the mergers we have reviewed in common, despite having different

which, according to those mentioned above, reflected also convergence of policies. The recent developments with the new European test, and particularly with the recently published Commission Guidelines on horizontal mergers, whose provisions, as will be seen in more detail in the analysis below, are largely similar to those of the 1992 US merger guidelines, only confirmed this pre-existing political trend. Moreover, the adoption of the new European SIEC test, which reduces the market-share threshold for anticompetitive mergers, addresses also the previous concerns about the structural, and therefore rigid and insufficient, nature of the European test compared with SLC test. Thus, the lower market-share thresholds enable the new test to rely less on market shares and concentration for establishing anticompetitive effects, while from the Commission Guidelines on horizontal mergers becomes apparent that efficiencies will be formally incorporated in the analysis. As a result, both tests now, even if their wording still remains different, now cover the whole spectrum of anticompetitive effects that can possibly arise as a result of a merger, while they also rely largely on the same economic methods and criteria for proving such effects. This, in turn, enables the two jurisdictions, unlike existing differences in other areas of merger control, to converge significantly on their decisions concerning the competitive effects of mergers falling within the scopes of both tests. However, perfect convergence will not be achieved because, as the European Commissioner of competition rightly argued, "a degree of divergence is unavoidable in a multi-polar world composed of sovereign jurisdictions, each with its own laws, enforcement authorities and courts"[58].

As a conclusion, and provided that maximum convergence on public policy issues is not possible for the foreseeable future, the preservation of the current status quo of two different tests seems to be the most appropriate solution because it safeguards the autonomy of the two jurisdictions without preventing convergence whenever this is required by the circumstances, political, economical or others. However, concerning

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substantive standards (or at least different verbal formulations of our standards) and different merger review processes" (William J. Kolasky "United States and European Competition Policy: Are There More Differences than we Care to Admit?", Speech before the European Policy Centre, Brussels, Belgium, April 10, 2002.

According to Commissioner Monti "Today the EU and US...have substantive tests with different wording. But we share the same fundamental concern: the use of market power and its ultimate effect of consumer welfare. It should therefore be clear...that the common ground on the interpretation of the two substantive tests is substantial; the focus is very much on the comparison of tests at the margin" (see Mario Monti "Analytical Framework of Merger Review", Speech in International Competition network Conference, Naples, September, 2002).

[58] See Mario Monti "Antitrust in the US and Europe: A History of Convergence", Speech in the General Counsel Roundtable, American Bar Association, November 14, 2001.

the application of the two tests, the adoption of certain common standards is useful, and therefore already exists.

5.4 The US decision for the SGA market

The published US documents for *Alcoa/Reynolds* merger are less detailed than the European Commission's published decision. This is due to the more restrictive policy in the disclosure of information about mergers reviewed by US agencies[59]. There are certain exceptions only for cases where there is judicial involvement which allows the publication of more detailed information. This was the case with *Alcoa/Reynolds*, which was challenged by the DOJ before a US District Court and this allowed the publication of some non-confidential information about the deal. To fill in the still missing information this thesis used the results of its own market research and information from the decision of the European Commission, which cooperated closely with the US authorities for this case[60].

5.4.1 The relevant product market

The US authorities adopted a broader product market definition than the European Commission by including captive SGA in the relevant market.

The US view as included in the Complaint[61] and the Competitive Impact Statement (CIS)[62] could be summarised as follows:

a. "The refining and sale of SGA is a relevant product market (i.e., a 'line of commerce') within the meaning of Section 7 of the Clayton Act"[63].

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[59] Although the Freedom of Information Act, which was enacted in 1966, permits general access to the FTC and DOJ files to anybody at any time and for any reason, the US Congress for reasons related amongst others to national security or the protection of trade secrets exempted certain categories of documents from public release.

Regarding mergers section 7A of Clayton Act which rules on the merger review process expressly states: "Any information or documentary material filed with the Assistant Attorney General of the Federal Trade Commission pursuant to this section shall be exempt from...disclosure...and no such information or documentary material shall be made public, except as may be relevant to any administrative or judicial action or proceeding...."(U.S.C. §18a (h)).

As a result, the publications for *Alcoa/Reynolds* merger occurred in the context of the judicial action and proceeding initiated by the antitrust authorities before the District Court for this case.

[60] See the Commission's Press Release of May 4, 2000 for this case.

[61] See the civil antitrust Complaint (No:00-CV-954 (RMU)) of May 3, 2000 filed with the District Court of Columbia for this case.

[62] See the Competitive Impact Statement of June 6, 2000.

[63] *Ibid.*.

b. SGA is used by aluminium smelters to make aluminium metal. There is no product that can be substituted for SGA to make aluminium metal.

c. If aluminium smelters were confronted with a small but significant SGA price increase, they would have to pay the higher price or shut down.

d. It is extremely costly and inefficient to shut down a smelting operation; smelters therefore require a stable and steady supply of SGA to maintain production.

e. Demand is highly inelastic. A small decrease in the supply of SGA will cause a significant increase in the price of SGA. When the July 1999 explosion at Kaiser Aluminium Corporation's refinery at Gramercy, Louisiana removed 2% of world alumina capacity, SGA "spot" prices nearly tripled, and long-term SGA prices increased 20% to 30%.

5.4.1.1 Product market definition under the 1992 merger guidelines: analysis, comments and comparisons with the EU

The 1992 Guidelines and the methodology applied by the US competition agencies

The 1992 Guidelines define the relevant product market as "...a product or a group of products such that a hypothetical profit-maximising firm that was the only present and future seller of those products ("monopolist") likely would impose at least a 'small but significant and nontransitory' increase in price"[64].

For the definition the US agencies apply a rigorous methodology based on the SSNIP test: "...[T]he Agency will begin with each product (narrowly defined) produced or sold by each merging firm and ask what would happen if a hypothetical monopolist of that product imposed at least a small but significant and nontransitory' increase in price, but the terms of sale of other products remained constant"[65]. The "small but significant and nontransitory" price increase is more often at the level of 5% but bigger or smaller increase is also possible[66].

If the price increase is unprofitable, "... the Agency will add to the product-group the product that is the next-best substitute for the merging firm's product[67]". In such a

[64] § 1.11
[65] *Ibid.*
[66] *Ibid.*
[67] *Ibid.*

case the test will be applied to the product group and in the same way the test will expand until the increase becomes profitable.

For avoiding *cellophane fallacy* implications[68] the test uses "...prevailing prices of the products of the merging firms and possible substitutes for such products, unless pre-merger circumstances are strongly suggestive of coordinated interaction, in which case the agency will use a price more reflective of the competitive price[69]".

The guidelines provide also an explicit list of evidentiary criteria to be examined for finding out whether buyers will switch to substitutes in response to the 5% increase. The list includes, amongst others, past evidence of buyers' switch; evidence that sellers base business decisions on the prospect of buyers' substitution between products in response to price changes or other competitive variables; the influence of downstream competition faced by buyers in their output markets and the timing and costs of switching products[70]. However, the list is not exhaustive and the agencies will examine "all relevant evidence".

In addition, although the agencies focus "solely on demand substitution factors" when defining the market, they nevertheless take into account supply substitution when they seek to identify firms participating in the relevant market[71]. The guidelines distinguish between "committed" and "uncommitted" entrants and take into account the latter when defining the market. "Uncommitted" entrants are firms not currently in the market, but which can, within one year, enter or divert output into the subject firm's market without making significant irreversible investments.

Generally speaking the SSNIP test adopted by the guidelines for defining markets produces some certainty and predictability in the inherently difficult task of market definition. However, uncertainty still exists. For instance, the "cellophane fallacy"

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[68] The *Cellophane* case refers to a decision of the US Supreme Court in *United States v. E.I. du Pont de Nemours & CO* 351 US377 (1956). This case became the leading example of false market definition. In particular, the US Supreme Court defined a broad relevant product market including all flexible packaging materials and not only the cellophane, which was sold by du Pont and in which the latter had a 75% market share. The Court used the concept of "cross-elasticity of demand", which showed that an increase in the price of the cellophane would cause shifts by buyers to other flexible materials. However, many commentators relying amongst other factors on the unusually high profits of du Pont from the cellophane pointed out that the prices of cellophane on which the cross-price elasticity was applied were already at supra-competitive level. Thus, the Court's definition was not reflective of the du Pont's market power in the cellophane.

Since that decision, the selection of the appropriate price levels for applying elasticities and the SSNIP test has always been a contentious issue. The problem is further fuelled by the practical difficulties in determining which level of prices is the competitive one to use it as the basis for applying the SSNIP test.

On the issue see also Gregory Werden "Market Delineation under the Merger Guidelines: Monopoly Cases and alternative approaches" 16 *Review of Industrial Organisation*, 2000, 211.

[69] § 1.11.

[70] *Ibid.*

[71] § 1.3.

problem is not completely solved, since the guidelines do not explain how the agencies will decide whether the prevailing market prices are competitive enough to be used in the test or whether a more competitive price should be used and how the latter price could be found[72]. In addition, "hypothesising" a "small but significant" price increase in a volatile market and then considering how neighbouring markets will respond, requires predictive abilities based on market analysis, which is often very complex and this could limit the accuracy of the test[73].

Also, the guidelines' test, which has history of more than 20 years in US merger analysis[74], was introduced in merger control to deal with mergers giving rise to increased likelihood of collusion rather than with mergers facilitating the exercise of market power by a single firm[75]. In this respect, the guidelines' test has been considered by some US economists and competition scholars as insufficient to deal with unilateral effects particularly in case of differentiated products where the issue is how closely firms compete[76].

A leading example in this respect is the decision by a US district court in *FTC v. Staples*[77] where the FTC sought a preliminary injunction against the acquisition of Office Depot by Staples. The relevant market was defined as including "office supply superstores" and the court found that the merger would substantially lessen competition in that market (the merger would reduce the number of "office supply superstores" from three to two). For defining the market FTC used econometric and documentary evidence from a natural experiment based on the so-called "merger simulation techniques", which showed that office supply superstores were distinct product market from which non-superstore sellers should be excluded.

It was argued[78] that a proper guidelines' analysis in this case would have posed significant problems. First, because the alleged market was a "cluster market" –a collection of products not viewed by consumers as substitutes but lumped together for reasons related to the way the products are distributed- and the guidelines do not use cluster markets. According to this view, the guidelines allow the aggregation of

[72] See also Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice*, (2nd Ed.), West Group, 1999, §3.8e.
[73] See also *ibid.*
[74] The test was first imported in the 1982 merger guidelines.
[75] See also Hovenkamp *op.cit.*75, §3.8.
[76] See Jonathan Baker "Stepping out in an Old Brown Shoe: in Qualified Praise of Submarkets" 68 *Antitrust L.J.*, 2000, 203, at 210-217. The role of SSNIP test in market definition in differentiated products where unilateral effects arise is discussed also in the analysis of beverage can market below.
[77] *FTC v. Staples Inc.*,970 Supp. 1066 (D.D.C. 1997).
[78] See Gregory Werden *op.cit.*65, 218.

products that are not good demand substitutes if and only if, the competitive conditions are essentially the same for all of them, and this was most unlikely in this case. Second, the guidelines do not define markets as collections of firms but rather as collections of products and in this case there was need for a definition on a firm basis. However, other, opposite, views[79] suggest that this case constitutes the best empirical example of the implementation of the guidelines' methodology.

In any case, criticisms, as the above, are parts of the general debate lasting for several years in the US whether the guidelines are sufficient to properly analyse unilateral effects and whether other methods, such as merger simulation, should be used. Some economists even question the need for market definition in cases involving unilateral effects analysis[80]. The issue is examined in more details in other chapter of the thesis[81].

The views of the US courts

Concerning market definition in the US it is necessary to refer also to the courts' view, which does not fully coincide with the guidelines' doctrine and methodology. The US courts do not consider themselves bound[82] by the guidelines and, without rejecting the latter, prefer to use the methodology developed by the case-law of the US Supreme Court, which has built on "reasonable substitutability"[83], a concept based both on demand and supply substitutability, for defining product markets.

Under the concept of demand substitutability goods or services are likely in the same market if they are "reasonably interchangeable by consumers for the same purposes"[84]. The interchangeability inquiry focuses on the products' users or consumers. The degree of "functional" interchangeability is one indicator of substitutability but is not conclusive, since the test requires proof of both "...the availability of products that are similar in character or use to the product in question

[79] See e.g. Lawrence White "Present at the Beginning of a New Era for Antitrust: Reflection on 1982-1983" 16 *Rev. of Ind.Org.* 2000, 131, 133,134.
[80] See Werden *op.cit.*68.
[81] See the analysis about the beverage cans market in chapter 7.
[82] E.g. *FTC v. Owens-Ill. Inc.* 681 F.Supp. 27, 34 n.17, 38-46 (D.D.C. 1988) ("the Guidelines are not binding on the courts").
[83] *United States v. E.I. Du Pont de Nemours & Co.* 351 US 377 (1956), 394-5 ("In considering what is the relevant market for determining the control of price and competition, no more definite rule can be declared than that commodities reasonably interchangeable by consumers for the same purposes make up that 'part of trade or commerce', monopolisation of which may be illegal").
[84] *United States v. E.I. du Pont de Nemours & Co.*, 351 US 377, 394-5 (1956).

and the degree to which buyers are willing to substitute those similar products for the product"[85]. Users' willingness to shift purchases from one product to another is then calculated through use of cross-demand elasticities[86].

Supply substitutability may also be an important factor in defining a product market[87]. This seems to be in relative contrast with the guidelines, which provide for supply-substitutability consideration not in the market definition but when examining supply responses by "uncommitted" and "committed" entrants.

The US courts' approach to product market definition was well summarised in *FTC v. Cardinal Health Inc.*[88]:

> "[W]hen one product is a reasonable substitute for the other, it is to be included in the same relevant market even though the products themselves are not the same. A product is construed to be a 'reasonable substitute' for another when demand for it increases in response to an increase in the price for the other. Because the ability of consumers to turn to other suppliers restrains a firm from raising prices above the competitive levels, the definition of the 'relevant market' rests on a determination of available substitutes. The degree to which a similar product may be substituted for the product in question is said to measure the cross-elasticity of demand, while the capability of other production facilities to be converted to produce a substitute product is referred to as a the cross-elasticity of supply. The higher these cross-elasticities, the more likely it is that the alternative products are to be counted in the relevant market. In other words, the relevant market consists of all of the products that the defendants' customers view as substitutes to those supplied by the defendants".

The US courts in certain cases have defined very narrow product markets, which comprise for instance only a single manufacturer's product[89]. However, a much more important but also controversial concept developed by the US courts is that of "submarkets", which was first established by the Supreme Court in *Brown Shoe Co. v. United States*[90]. The concept of submarket refers to a well-defined part of a broader market, which could constitute distinct product market for antitrust purposes. The relevant Court's statement in *Brown Shoe* reads:

> "The outer boundaries of a product market are determined by the reasonable interchangeability of the use or the cross-elasticity of demand between the product itself and substitutes for it. However, within this broad market, well-defined submarkets may exist, which, in themselves, constitute product markets for antitrust purposes. The boundaries of such a submarket may be determined by examining such practical indicia as industry or public recognition of the submarket as a separate economic entity, the products peculiar characteristics and uses, unique production facilities, distinct prices, sensitivity to price changes, and specialised vendors".

However, the court did not specify how these indicia should be weighed and this caused fierce criticism, focusing on the risk of defining inappropriately narrow markets and, thus, of the identification of market power in markets where firms

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[85] *FTC v. Swedish Match* 131 F. Supp. 2d 151, 157 (D.D.C. 2000).
[86] See also Dean Ringel "Monopolies and Joint Ventures" 1311 *PLI/Corp* 2002, 11, 23.
[87] *Brown Shoe Co. v. United States*, 370, US 294, 325, 82 S. Ct. 1502, 8 L. Ed. 2d 510 (1962).
[88] *FTC v Cardinal Health, Inc.*, 12 F.Supp. 2d. 34 (D.D.C. 1998).
[89] *Eastman Kodak Co. v. Image Technical Services Co.* 504 US 451 (1992).
[90] See *Brown Shoe Co. v. United States*, 370, US 294, 325, 82 S. Ct. 1502, 8 L. Ed. 2d 510 (1962).

compete vigorously[91]. Concerning the practical indicia themselves, it appears that they are related to the identification of demand and supply substitution patterns, while they also help to the definition in differentiated-product and price-discrimination markets[92]. Despite views against the existence of different criteria for defining submarkets and markets[93], which were also adopted in certain court decisions[94], the practical indicia of *Brown Shoe* are still used by the US courts for defining submarkets, particularly in cases where factors, such as product differentiation, differences in physical characteristics and price discrimination, are examined[95].

In relation to the guidelines the submarket methodology is often used by courts in assessing unilateral effects cases, an issue which has also attracted criticism[96].

The issue of submarkets has not only legal implications, but also practical ones concerning the fact that there is not always available market evidence that would help to draw the boundaries of a distinct submarket within a given market. Conversely when there is available such evidence it is quite sensible to believe that the result will be the proper definition of a "market" and not of a "submarket"[97].

Product market definition in the US and the EU-comparisons

Compared with the US methodology the EU approach has several similarities but also certain differences.

The Commission's Notice on the relevant market states that the relevant product market "comprises all those product and/or services, which are regarded as interchangeable or substitutable by the consumers by reason of the product characteristics, their prices and their intended use"[98]. The definition refers to the

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[91] See Baker *op.cit.*76, 206; also Hovenkamp *op.cit.*72, §3.2c.
[92] See Baker *ibid.*
[93] See Baker *ibid.*; also Phillip Arreda et al *Antitrust Law* (1995), para. 533c.
[94] See e.g. *Forsyth v Humana, Inc.* 99 F3d. 1504, 1513-1514 (9th Cir. 1996); *H.J. Inc. v International Tel. & Tel. Corp.*, 867 F.2d. 1531, 1540 (8th Cir. 1989) ("the same proof establishes the existence of a product market or a product submarket"); *White & White, Inc. v American Hosp. Supply Corp.*, 723 F.2d, 495, 500 (6th Cir. 1983) ("a submarket is a market").
[95] See also Hovenkamp *op.cit.*72, §3.2c.
[96] See e.g. *FTC v. Staples*, 970 F. Supp. 1066, (D.D.C. 1997). In that leading unilateral effects US case the District Court used certain *Brown Shoe* factors, such as "sensitivity to price changes" and industry recognition in order to define a narrow market consisting of the sale of consumable office supplies by office superstores. The criticism of the use of the *Brown Shoe* criteria in unilateral effects cases is that as with conventional market definition these criteria do not provide direct evidence with respect to the effects of the merger on prices (see Baker *op.cit.*74, 218). The issue of market definition in unilateral effects cases is discussed in detail in chapter 7 of the thesis.
[97] See also Baker *op.cit.*76; also Hovenkamp *op.cit.*72, §3.2c.
[98] Para. 7 of the Notice.

concept of functional interchangeability which focuses on product characteristics[99]. Compared with the US guidelines' definition the EU definition is less precise and leaves many issues open to interpretation[100]. However, the reference to interchangeability of product characteristics constitutes an old-style approach to market definition[101] and is more close to the concept of "reasonable interchangeability" of the US courts rather than to the guidelines.

Further, the Notice provides that market definition focuses mostly on demand substitution, which is largely determined through the application of the SSNIP test in a manner similar to the guidelines[102]. However the Notice, unlike the guidelines, requires also examination of supply-substitutability, which will be taken into account when its effects "are equivalent to those of demand substitution in terms of effectiveness and immediacy"[103]. To be effective, supply-side substitution must be timely and must occur without significant additional costs or risks in response to small and permanent changes in relative prices, but identifying these costs or risks and quantifying how much is "significant", is a contentious issue[104].

Nevertheless, the difference between the guidelines' and the Notice's approach on the treatment of supply substitution is not of big practical importance, since the guidelines take into account supply factors in the calculation of market shares[105]. Also, the Commission's practice regarding supply substitution is to take it into account only rarely, which means that demand substitution is, as in the US, the main basis for defining the market[106]. Thus, finally in practice both tests result in the identification of almost ideal sets of competitive constraints[107].

Another source of differences concerns the process that the two tests follow in the definition. The guidelines start with each product (narrowly defined) produced or sold by each merging firm and expands outwards through the application of the SSNIP

[99] The concept was developed by the ECJ in *Hoffman-La Roche* (Case 85/76 *Hoffman-La Roche & Co AG v. Commission* [1979] ECR 461; [1979] 3 CMLR 211).
[100] See also in chapter 3.
[101] See Peter Camesasca and Roger J. Van Den Bergh "Achilles Uncovered: Revisiting the European Commission's 1997 Market Definition Notice" *Antitrust Bull*, 2002, 143 at 158.
[102] Paras 13, 15-19 of the Notice.
[103] Para. 20.
[104] See also Simon Baker and Lawrence Wu "Applying the Market Definition Guidelines of the European Commission" *E.C.L.Rev.* 1998, 273, 275.
[105] §§ 1.3, 1.4.
[106] See also Bishop and Walker *op.cit.*44, 4.58. Also Lorenzo Coppi and Mike Walker "Substantial Convergence or Parallel Paths? Similarities and Differences in the Economic Analysis of Horizontal Mergers in US and EU Competition Law, SPG-SUM *Antitrust Bull.* 2004, 101, 107.
[107] See also Bishop and Wu *op.cit.*104, 275.

test[108]. The Commission's policy is to start, on the basis of preliminary information available or information submitted by the merging parties, with broadly establishing the possible markets within which a concentration has to be assessed and continue inwards thus finally defining a narrower relevant market[109]. Also, according to the Notice, applying the SSNIP test is "one way" of determining demand substitution[110] but not the only way in contrast with the guidelines' approach, which promotes the SSNIP test as the only way to define the product market.

As regards market evidence, the two systems use almost the same types of quantitative evidence[111] but the Commission takes also into account qualitative evidence. The technical nature of the SSNIP test makes the guidelines heavily reliant upon economic evidence for determining whether the hypothetical price increase would be profitable, but in Europe, where the SSNIP test is only one way for defining product market, the Commission follows "an open approach to empirical evidence aimed at making an effective use of all available information, which may be relevant in individual cases"[112]. Also, the examination of past empirical evidence for defining the markets is provided both in the guidelines and the Commission's Notice[113].

In sum, the US approach is more precise and clear-cut, due to its heavier reliance on the results of economic analysis in the context of SSNIP test, while the Commission's policy, even if it makes extensive use of economic analysis and of the SSNIP test, is still also oriented towards a qualitative approach to market definition. This is clear from the coexistence in the Notice of "functional interchangeability", which refers to the traditional market definition based on the qualitative assessment of product characteristics and intended use, and of the more modern hypothetical monopolisation, which refers to quantitative assessment[114].

However, it is necessary to mention that the Notice applies both to mergers and cases under Article 81 and 82, whereas the guidelines apply only to mergers and not to cases of antitrust violations. This is an important difference because SSNIP application is more appropriate in merger cases where competition authorities seek to

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[108] §1.11 of the guidelines.
[109] Para 26 of the Notice.
[110] Para 15 of the Notice.
[111] See also James S. Venit and William J. Kolasky "Substantive Convergence and Procedural Dissonance in Merger Review" in Simon J. Evenett, Alexander Lehmann, and Benn Steil, *Antitrust Goes Global: What Future for Transatlantic Cooperation?*, London Royal Institute for International Affairs, 2000, 79.
[112] Para 25 of the Notice.
[113] § 1.11 of the guidelines and para.45.
[114] See also Camesasca and Van Den Bergh *op.cit.*101, 185.

assess what will happen in the future if the hypothetical monopolist were to raise its prices after the merger, but not in dominance and antitrust violation cases where the defendant may already charge monopoly prices[115]. This may explain why the Commission's Notice does not establish SSNIP as the only way for defining the relevant market.

5.4.1.2 The relevant product market of SGA.

The refining and sale of SGA was, as shown above, the relevant product market or "line of commerce" within the meaning of Section 7 of the Clayton Act. The decision was based on findings that if aluminium smelters were confronted with a small but significant SGA price increase, they would have to pay the higher prices or close down. This was so, because there were no substitutes for SGA.

At this point there are no differences from the Commission's definition, as presented in the previous chapter. The US decision was also consistent with the guidelines' methodology according to which demand substitution is the sole determinant of the relevant product market. Thus, since there were no demand substitutes for SGA, it was apparent that the product alone would be considered as the relevant product market.

The next step according to the guidelines is to identify the firms that participate in the relevant market. The task of identification is quite important because it concerns the calculation of market shares and concentration, two important factors for the assessment of market power. In *Alcoa/Reynolds* the task produced a decision to exclude CGA from the relevant product market and a decision to include captive SGA production.

In more detail, according to Section 1.3 of the guidelines, the relevant product market comprises current producers or sellers and firms that participate through supply response. The category of current sellers includes also vertically integrated firms "...to the extent that such inclusion accurately reflects their competitive significance prior to the merger". As regards firms participating through supply response, the guidelines develop the concept of "uncommitted entrants", that is, firms "not currently producing or selling the relevant product in the relevant area[116]" but

[115] See also Whish *op.cit.*43, 28.
[116] See § 1.32.

which could enter the market "within one year and without the expenditure of significant sunk costs of entry and exit, in response to a 'small but significant and nontransitory price increase'[117]". Uncommitted entry is hit-and-run and concerns firms that, in the imposition of supra-competitive prices by the incumbents, can enter quickly and with low sunk costs into the market, take advantage of the higher prices there, and get out of the market in the same way when higher prices disappear. If the entrants expect to stay in the market permanently, then they will be classified as "committed" entrants and will be included in the entry analysis, which is carried out at a later stage[118]. The guidelines recognise several types of uncommitted entry, such as production substitution and extension[119] or the acquisition of new assets for production or sale of the relevant product[120]. However, the guidelines stress that if a firm has the technological capability to achieve an uncommitted supply response ,but likely would not, that firm will not be considered as a market participant.

The concept of "uncommitted entry" generalises the idea of supply substitution, which has been recognised by the US courts as a factor constraining the exercise of market power and which should therefore be included in market definition[121]. The courts have also held that supply substitution expands the market[122]. However, the authors of the guidelines considered as more appropriate to take it into account only in the calculation of market shares.

Compared with the EU approach the guidelines' approach to supply substitution appears more precise than the Commission's Notice and seems to avoid the all-or-none problem, which is present in the Notice. This problem can be seen in the Notice's example of paper of different qualities[123]. The different qualities of papers are not demand substitutable with each other, but according to the Commission should be all included in the relevant product market because paper manufacturers are able to compete for orders of the various qualities, given the absence of particular distribution hurdles and sufficient lead-time to allow for modification of production plants. The

[117] *Ibid.*
[118] *Ibid.*
[119] § 1.321.
[120] § 1.322.
[121] Although the role of new supply as a factor constraining the exercise of market power was recognised by US courts long ego it was only in the 1970s and under the Chicago School pressure when US courts recognised the role of supply substitution in market definition. The leading cases were those of *Telex* (*Telex Corp. v. IBM Corp.* 510 F.2d 894, 914-919 (10th Cir.), cert. dismissed, 423 U.S. 802 (1975)) and *Twin City Sportservice* (*Twin City Sportservice, Inc. v. Charles O. Finley & Co.*, 512 F.2d 1264, 1271-74 (9th Cir. 1975), aff'd after remand, 676 F.2d 1291 (9th Cir.), cert. denied, 459 U.S. 1009 (1982)).
[122] *Ibid.*
[123] Para.22 of the Notice.

decision to define a broad market including all qualities is based on the view that an analysis based exclusively on demand substitution would lead to the definition of a large number of too narrow and artificial mini-markets, in which the market volume and market shares could not be correctly measured and would lose their meaning[124]. However, this approach is not necessarily reflective of market power since producers of the various product qualities may have no reasons, even if they are capable, for switching production. Conversely, defining separate relevant markets for each product quality may also not be the best solution, since this will not take into account the potential of capacity shifts from one product to the other, which would constrain the exercise of market power[125].

The US guidelines avoid this problem by assigning market shares to uncommitted entrants based on divertible capacity, namely capacity that the producer will find profitable to shift from one product to another in case of a hypothetical price increase and excluding capacity which would not be diverted to the relevant market either because it is committed or it is so profitably employed outside the relevant market that would not be available to respond to a price increase in that market[126].

However, the concept of "uncommitted" entrants does not seem to have broad acceptance in the US and a FTC official has characterised uncommitted entrants "as elusive as the Abominable Snowman" and that category of entry an empty box[127].

For the SGA market the potential of uncommitted entry would be examined for firms not currently producing or selling SGA. Most likely such entrants would be firms producing chemical-grade alumina (CGA), a product deriving from the same production process as SGA but at an earlier stage of that four-stage process[128]. The US published texts did not provide any information on whether CGA capacity or part of it was included in the calculation of market shares for the SGA market. The market shares for the merging parties given by the US authorities differed from those given by the European Commission but this was most likely due to the different treatment of captive sales[129].

[124] See also E. Navarro, A. Font, J. Folguera and J. Briones, *Merger Control in the EU,* Oxford University Press, 2002, 5.107.

[125] See also Camesasca and Van Den Bergh *op.cit.*101, 160-1.

[126] §1.41; see also Jonathan Baker "The Problem with Baker Hughes and Syufy: On the Role of Entry in Merger Analysis" 65 *Antitrust L.J.* 1997, 353, 356-9.

[127] See Thomas B. Leary "The Essential Stability of Merger Policy in the United States" 70 *Antitrust L.J.* 2002, 105, 121.

[128] See also in the previous chapter where the market definition of the European Commission was examined.

[129] See below.

As regards CGA capacity, judging from the Commission's analysis and from information collected by this thesis, it seems unlikely that such capacity was taken into account by US authorities for the calculation of market shares in the SGA market. This is so because CGA capacity did not satisfy the criteria of the guidelines for entry within one year, recovery of sunk costs within one year after the entry and the condition that if stayed outside CGA capacity would not be more profitable[130].

CGA producers, to switch towards SGA in response to a hypothetical price increase in the latter, would have to install additional equipment, which judging from the general situation in aluminium industry, would mean significant sunk costs and long-term investment[131]. Moreover, as the Commission mentioned in its analysis[132], CGA costs twice as much as SGA and therefore a switch from CGA to SGA would result in economic penalty for the refineries. Lastly, switch to SGA would potentially require more than the one year required by the guidelines for such a switch to occur[133].

As a result, CGA production does not meet the criteria of guidelines for "uncommitted entry".

As regards other firms that were not producing either SGA or CGA, they would face additional problems due to the fact that they would have to build new refineries through greenfield projects, which as shown in the previous chapter require five years lead-time and of course do not constitute hit-and-run entry.

Regarding captive SGA production, the US authorities, as shown, included it in the relevant product market along with merchant sales. This was, as explained in the previous chapter, the correct approach, since captive SGA was capable of influencing SGA supplies and therefore prices on the open market and as such was competitively significant. For this reason the US definition was more appropriate than the Commission's, which excluded captive production from the relevant product market. This conclusion will be best seen in the analysis of competition in the downstream primary aluminium market in the next chapter, where it will be shown that the remedies promoted by the US authorities for SGA were more sufficient to address the problem from the potential application of raising-rivals'-cost strategies by Alcoa

[130] §§ 1.32 and 1.41.
[131] See the analysis regarding capacity expansions in refineries in the previous chapter. Also in para.10 of the Commission's decision.
[132] Para. 10 of the Commission's decision.
[133] See the analysis of refinery's capacity expansions in the previous chapter.

against non-independent downstream competitors. The examination of the aluminium market will also strengthen the arguments for the importance of a proper market definition for an effective merger control system.

As for long-term SGA contracts, there is nowhere in the US published texts for the SGA market any reference to these contracts but they were obviously included in the relevant market. This inclusion could be deemed as justified taking into account also the treatment by the DOJ of captive sales and also as explained in the previous chapter the market realities concerning SGA.

5.4.1.3 Conclusions on the product market definition regarding SGA

The examination of product market definition made by US agencies compared with the European Commission's definition reveals a different approach in the treatment of captive SGA production by the two agencies. Although it is not clear from the published documents on what grounds the US agencies decided to include captive SGA, which had been excluded by the Commission, in the product market, it nevertheless seems, judging from the market realities, that the US decision was more appropriate.

5.4.2 The relevant geographic market

The US decision defined the SGA market as a world market and did not exclude from it the countries of Eastern Europe, CIS and China as the European Commission did in its decision. The relevant, laconic, statements in the Complaint[134] read:

"Aluminum smelters purchase alumina from refineries located throughout the world. Alcoa, Reynolds and other alumina refiners refine and sell SGA throughout the United States and the world. The world constitutes a relevant geographic for SGA within the meaning of Section 7 of the Clayton Act".

5.4.2.1 Geographic market definition under the guidelines: framework, comments and comparison with the European Commission's practice.

[134] Paras 14, 15.

As with the product market, the guidelines apply the SSNIP test for defining geographic markets. The geographic market is defined as "a region such that a hypothetical monopolist that was the only present or future producer of the relevant product at locations in that region would profitably impose at least a 'small but significant and nontransitory' increase in price, holding constant the terms of sale for all products produced elsewhere"[135]. The test first applies to "the location of each merging firm (or each plant of a multiplant firm)" and examines whether the imposition of a 'small but significant and nontransitory price increase' in this location would be profitable. The process continues as in the case of product market and culminates with the definition of the 'smallest market', where the price increase will be profitable, as the relevant geographic one. The guidelines also provide a non-exhaustive list of evidence that will be taken into account in considering buyers' reaction to a price increase[136].

The US courts have not developed any precise criteria or formula about geographic market definition, but they normally take into account factors, such as sales patterns in specific areas, price movements and transportation costs. Also, national factors, such as import tariffs, are also taken into account. However, a basic principle is that geographic market must be determined pragmatically in accordance with the real market conditions and should be economically meaningful[137].

Compared with the European Commission's approach, the guidelines are more precise, since they rely on the rigorous methodology of the SSNIP test. The European Commission makes rare use of the SSNIP test when defining geographic markets and prefers to rely more on empirical evidence, such as trade flows and comparisons of price levels, which have been characterised "very simple and crude"[138].

Another potential source of differences concerns the fact that the European Commission seems to apply different techniques in geographic market definition from those in the product market, unlike the guidelines where the SSNIP applies to both markets. This could be inferred from both the different definition given to the concept of geographic market by EC competition law, as well as from the Commission's practice. In particular, the conventional definition for geographic market refers to the

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[135] § 1.21
[136] *Ibid.*
[137] See also Quinn *op.cit.*17, at 1034.
[138] See European Commission, DG Enterprise "The Internal Market and the Relevant Geographic Market" Final Report, February 3, 2003, at 47-48.

homogeneity of competitive conditions, as the basic test applied[139], which is different from the definition given to the product market[140], while there is nowhere reference to the consumer behaviour of switching locations in response to a price increase. As regards practical application, the Commission seems to treat product and geographic markets as two distinct, sequential steps in its analysis[141], as opposed to the simultaneous application of the SSNIP test on both product and geographic dimension proposed by the US guidelines[142]. Sequential analysis has been considered to result in some cases in narrower relevant markets than when the analysis is simultaneous[143].

In general comparing the past decisions of the US agencies and of the European Commission it seems that the latter's geographic markets are narrower[144]. A US DOJ official related this difference, not to the applicable tests, but to the different levels of geographic integration in the two economies[145]. It has also been argued[146] that defining the geographic market narrowly need not necessarily bias the findings of the investigation provided the competitive forces outside the area are considered when the meaning of market shares is assessed. This seems to have been confirmed by the practical application of merger control in US and EU, where the different geographic definitions have not prevented the two jurisdictions from reaching consistent results on the most mergers they reviewed in common[147].

5.4.2.2 Geographic market definition regarding SGA.

The SGA market confirms the abovementioned view about geographic market definitions in US and EU merger control systems. The US agency defined SGA as a world market thus including the Eastern world, which had been excluded in the definition of the European Commission. The published US documents for *Alcoa/Reynolds* offer little guidance on how such a definition was made and the only reasons provided, as shown above, were that aluminium smelters purchase alumina from refineries located throughout the world and that Alcoa, Reynolds and other

[139] See para.8 of the Commission's Notice on the relevant market.
[140] *Ibid.* para.7.
[141] See also Camesasca and Van den Bergh *op.cit.*101, 162; also Navarro et al. *op.cit.*124, 5.130-5.136.
[142] §1.0 of the guidelines.
[143] Camesasca and Van den Bergh *op.cit.*101.
[144] See Kolasky, *op.cit.*57.
[145] *Ibid.* Also according to Coppi and Walker *op.cit.*106, at 110, due to the diversity of Europe linguistic, cultural and regulatory barriers often play role in geographic market definition.
[146] See Bishop and Walker *op.cit.*44, at 4.71.
[147] See also Kolasky *op.cit.*57.

alumina refiners refine and sell SGA throughout the United States and the world. Conversely, the European Commission had excluded Eastern world (countries of the Eastern Europe, CIS and China) from the geographic market on grounds that there were no imports from these countries to the West.

The lack of imports from East to the West implies non-availability of Eastern SGA to Western buyers, a situation which could potentially justify the latter's exclusion particularly, since under the guidelines the ability of buyers to switch to other areas in response to a small but significant and non-transitory price increase imposed by sellers on their domestic markets is a crucial issue in market definition[148].

However, the US agency by defining SGA as a world market may have taken into account the fact that SGA imports to the West occurred through aluminium metal, which includes, as a raw material, SGA and, as shown in the previous chapter, was imported in big volumes to the West from the East. Such metal imports had been responsible for the collapse of metal prices on the Western markets in the mid 1990s, which also affected SGA prices and the US authorities may have considered this fact an indication for the ability of Western buyers to shift for purchases to the East[149]. The fact that imports of SGA to the West came through the metal might not have made much difference, since in the US, frequently, captive output -output of production used internally in the production of downstream goods or services- is included in the market for the base product[150]. Thus, since there were SGA imports, even indirectly, from the East to the West, which were able to render SGA price increases in the West unprofitable, the US agency might have considered it as sufficient reason to include eastern world in the relevant market.

The guidelines do not specify whether they will use total foreign output or only that part of foreign output shipped into the US in calculating market shares. The guidelines state that "[m]arket shares will be assigned to foreign competitors in the same way in which they are assigned to domestic competitors"[151]. The general rule about the latter competitors, in accordance with section 1.41 is that market shares will be calculated on the basis of total sales of all firms participating in the market or on the basis of capacity "currently devoted to the relevant market together with that

[148] §1.21.
[149] See the analysis of the geographic market definition of the European Commission in the previous chapter.
[150] See the analysis regarding captive sales in the previous chapter; also Thomas Kauper "The Problem of Market Definition under EC Competition Law" 20 *Fordham Int'l L.J.*, 1997, 1682, at 1749-1750.
[151] §1.43; see also Hovenkamp *op.cit.*72, at §3.8b.

which likely would be devoted to the relevant market in response to a small but significant and non-transitory price increase". In the case of SGA, the total world capacity was used in the calculation of market shares.

The DOJ's decision to consider the SGA market as worldwide is potentially more reflective of market realities, which indicate that Eastern world is integral part of the market, than the respective European Commission's decision. This is so because, as shown in the previous chapter, the Eastern world affects SGA supplies and prices in the West both on the supply and demand sides. On the supply side because the Eastern world indirectly exports SGA to the West and on the demand side because the Eastern world imports significant SGA volumes and therefore any considerable increase or decrease in demand for the product in the East would affect prices in the West. As a result, the US decision to define a single, worldwide, geographic market for SGA is closer to the market realities.

5.4.2.3 Conclusions

The geographic market definition by US and EU competition authorities in the case of SGA constitutes a good example of the different approaches followed by the two jurisdictions regarding geographic market definition. In the case of SGA the US definition seems to be more appropriate but this conclusion cannot produce conclusive results also about the positive effectiveness of the US methodology against that of the European Commission. This is so, because SGA constitutes only a single case and also because as will be shown below the different geographic market definitions did not prevent the two agencies from coming to the same conclusions about the anticompetitive effects of the merger in question.

5.4.3 Market shares and concentration

According to the DOJ[152], in 2000, the world SGA capacity was expected to total 49 million metric tons (MT), whereas Alcoa would own or control approximately 14.5 million MT or 29% of that capacity and Reynolds's respective numbers would be 4.4

[152] Complaint, May 3, 2000.

million MT or 9%. The HHI increase due to the merger would be 530 points and the index would reach a level of approximately 1800[153].

The DOJ considered that the increase in Alcoa's market share from the merger would significantly enhance the firm's incentive and ability to exercise market power unilaterally by reducing its output in the SGA market because demand for SGA was very inelastic[154]. The DOJ stated that Alcoa would have sufficient market share to profit from the increase in price caused by a unilateral reduction in output[155]. The merger would also increase the likelihood of anticompetitive coordination between Alcoa and the remaining firms in the SGA market, which had certain characteristics conducive to anticompetitive coordination[156].

5.4.3.1 Market shares and concentration in merger analysis in the U.S.- comparison with the EU.

The relationship between market shares, concentration, and market power is very close. A wide range of economic theories on oligopolistic conduct suggest that fewer firms and more concentrated markets are associated with higher prices[157], thus indicating the existence of market power. Empirical studies on industrial organisation also confirm the positive relationship between market concentration and prices[158]. It has been estimated that the coefficient of profits on market share is about 0.20[159] meaning that a market share of for instance 60% is associated with a sustained profit rate on equity of about 25%, far from the competitive rate of about 10%[160].

An issue of debate concerning market shares and concentration concerns the number of competitors that are necessary for effective competition to exist. Although before the 1970s economic research had suggested that upward of 10 comparable

[153] *Ibid.*
[154] Complaint para. 18, 19.
[155] *Ibid.* para. 19.
[156] *Ibid.* para 20.
[157] See Jonathan B. Baker and Steven C. Salop "Should Concentration be Dropped from the Merger Guidelines?" 33 *UWLA L.Rev.*, 2001, 3; also Richard Posner "Oligopoly and Antitrust Laws: A Suggested Approach", 21 *Stan. L.Rev.*, 1969, 1582.
[158] See Richard Schmalensee "Inter-industry Studies of Structure and Performance", in *Handbook of Industrial Organisation*, Richard Schmalensee & Robert Willig eds.,1989, 988. Other studies found that there is positive correlation between market concentration and profitability, but New Chicago-school-economists argued that this correlation was never proved to be causation (see George B. Shepherd, Joanna M. Shepherd and William G. Shepherd "Antitrust and Market dominance", *The Antitrust Bull.*, 2001, 835, at 841-842. For a detailed discussion on the issue see also Barry C. Harris & David D. Smith "The Merger Guidelines v. Economics: a Survey of Economic Studies" *Antitrust Report* 23, 1999.
[159] See Shepherd et al. *ibid.*, 841.
[160] See *ibid.*

competitors[161] were needed to constitute significant barriers to collusion, in the 1970s new-Chicago-School writers suggested that one or two small rivals were enough[162]. However, a more balanced view argues in favour of at least 5 comparable competitors, of which none to be dominant, associated with easy entry for new competitors[163].

The aluminium industry could be used as an example, since the control of alumina supply by few players (less than 10, of which one is the dominant player) is positively related to the level of prices in that market and also in the downstream aluminium market[164].

However, the treatment of market shares and concentration in merger analysis is a different issue. The U.S. approach has changed several times over the past years due to influences by various schools of thought and the advances in economic and econometric sciences.

In the early 1960s, the US Supreme Court in *Brown Shoe*[165] held that market shares are "the primary index of market power", while in *Philadelphia National Bank*[166] decision of the same period, the Court held that sufficiently high market shares establish *prima facie* illegality. In the latter case it was also ruled that high and increasing market concentration resulting from a merger creates a presumption of anticompetitive transaction. One decade later, in *General Dynamics Corp.*[167] the same Court clarified that the *Philadelphia National Bank* presumption was refutable. Finally, in the leading modern decision in *United States v. Baker Hughes Inc.*[168] the issue of market concentration was related to economic analysis in the sense that even if a merger between significant competitors raised prices, the courts should undertake an extensive and thorough economic analysis of the likely anticompetitive effects of the transaction, in which market concentration is just one of many relevant factors[169].

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161 See *ibid.* at 840; also Joe S. Bain *Industrial Organisation* (rev. ed), New York: Wiley, 1968.
162 See Shepherd et al *ibid.*; also Robert H. Bork *The Antitrust Dilemma: A Policy at War with Itself*, New York: Basic Books, 1978.
163 See Shepherd et al *ibid* citing also F. M. Scherer & David Ross, *Industrial Market Structure and Economic Performance* (3rd Ed.) Boston: Hughton Mifflin, 1990.
164 Timothy F. Bresnaham & Valerie Y. Suslow suggest that a merger in the North American aluminium industry during the 1960s and 1970s would have led to a price increase of 2.7% during cyclical downturns were operating at excess capacity, for every one-hundred point increase in the HHI of market concentration (see Timothy F. Bresnaham & Valerie Y. Suslow "Oligopoly Pricing with Capacity Constraints" 15/16 *Annales D'Economie et de Statistique*, 1989, 267).
165 *Brown Shoe Co. v. United States*, 370, US 294, 322, 82 S. Ct. 1502, 8 L. Ed. 2d 510 (1962).
166 *United States v. Philadelphia National Bank*, 374 U.S. 321 (1963).
167 *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974), 39 L. Ed. 2d.
168 *United States v. Baker Hughes Inc.*, 908 F.2d 981 (D.C. Cir. 1990).
169 See Baker and Salop, *op.cit.*155, 5.

The 1992 merger guidelines consider that market shares and concentration "provide only the starting point for analysing the competitive impact of a merger"[170]. Further, the guidelines in unilateral effects analysis seem to establish a safe harbour for firms whose combined market shares are less than 35%[171], but this may not be the case when there is evidence that the merging firms are each other's closest competitor[172]. As regards concentration, the guidelines use the HHI index for its measure. In general, the role of market shares is more important in unilateral effects analysis[173], while concentration is more relevant in the examination of coordinated effects[174].

Under EC competition law where the focus is traditionally on market dominance, which refers mainly to the examination of market structures, market shares have a central role in the Commission's analysis. This has been also confirmed by the ECJ which in *Hoffman-La Roche* stated:

"The existence of a dominant position may derive from several factors, which, taken separately, are not necessarily determinative but among these factors a highly important one is the existence of very large market shares"[175].

Since then the Commission's reliance on market shares for establishing dominance both under Article 82 and the ECMR is well known[176], even if, at least for merger control, C.R.4064/89 did not establish a specific methodology for assessing whether the merger actually created or strengthened a dominant position[177].

Regarding concentration, which is also a structural factor, the Commission has followed an open approach concerning the methodology applied for its calculation. Hence, it has used concentration ratios such as C2, C3, C4 etc., which refer to the aggregate market shares of the top 2,3 and 4 players respectively, as well as on HHI index, but in fewer cases[178].

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170 § 2.0.
171 §§ 2.211, 2.22.
172 See also Jonathan Baker "Unilateral Competitive Effects Theories in Merger Analysis" 11 *Antitrust* 1997, 21. The author presents an example of a merger where the firms' combined market share of 20% led to a 12.5% price increase; also Robert H. Lande and James Langenfeld "From the Surrogates to Stories: The Evolution of Federal Merger Policy" 11 *Antitrust* 1997, 5.
173 See Roscoe B. Starek III and Stephen Stockum "What Makes Mergers Anticompetitive?: "Unilateral Effects" Analysis under the 1992 Merger Guidelines" 63 *Antitrust L.J.* 1995, 801, 804.
174 See Jonathan Baker and Steven Salop *op.cit.*155, 3.
175 Case 85/76 *Hoffmann-La Roche*, [1979] ECR 461, [1979] 3 CMLR 211, para. 41.
176 See Jones and Sufrin *op.cit.*45, 925-926.
177 See Roger Van den Bergh and Peter Camesasca *European Competition Law and Economics: A Comparative Perspective*, Insertia, 2001, 334.
178 The Commission's policy to use concentration ratios more than HHI reflects the application of dominance test, which is more structural. On the other hand HHI, which measures the increase in market concentration as a result of the merger is more appropriate in the SLC test used in US (see also Navarro et al *op.cit.*124, 7.57-7.63)

The situation in European merger control, however, changed after the adoption of a new substantive test in the ECMR and the issue of the Guidelines on the assessment of horizontal mergers (or "Commission guidelines")[179]. The new market test has broader scope concerning oligopolies by dealing also with non-collusive oligopolies, which apparently were not covered by the dominance test[180]. In the new test the role of concentration becomes more important and therefore the Commission's guidelines formally adopt the HHI test as in the US[181].

However, under the new regime market shares and concentration constitute only "useful first indications" of market power[182]. This means that the role of market shares, which was central under the dominance test, will now be less important. However, and provided that the concept of dominance is prevalent also in the new test one should expect particularly in situations of single-firm market power, the level of market shares to remain crucial for the approval of the merger.

<u>5.4.3.2 Market shares and concentration in the SGA market.</u>

For the calculation of market shares in the US, the guidelines state: "The Agency normally will calculate market shares of all firms (or plants) identified as market participants in Section 1.3 based on the total sales or capacity currently devoted to the relevant market together with that which likely would be devoted to the relevant market 'in response to a 'small but significant and nontransitory' price increase"[183]. Section 1.3 refers to the identification of firms that participate in the relevant market namely current producers and sellers, and uncommitted entrants. Further, the guidelines state that market shares will be calculated using "the best indicator of firms' future competitive significance"[184].

Due to the different market definitions, the calculation of market shares by the US agency for SGA produced different results from that of the European Commission. Thus, according to the DOJ, Alcoa's market share post-merger would increase from 29 to 38%, which was significantly lower than the level of 45-55% given by the

[179] OJ [2004] C 31/03.
[180] This issue is examined in detail in other chapters of the thesis and particularly in the chapter 7 where an example of a non-collusive oligopoly is examined.
[181] Para.16 of the Commission guidelines.
[182] *Ibid.*para.14.
[183] § 1.41.
[184] See *ibid.*

European Commission. Moreover, the US calculation was based on SGA production capacity, while the European Commission's on real production. The latter difference, however, is not important since, as shown in the previous chapter, SGA refineries normally run in full capacity to be cost-efficient and therefore there was no significant overcapacity in the market.

Concerning concentration the US guidelines use three thresholds: a) mergers resulting in a HHI below 1,000 are unlikely to produce adverse competitive effects and ordinarily require no further analysis; b) mergers resulting in a HHI between 1,000 and 1,800 are unlikely to have adverse competitive effects and require no further analysis if the HHI increase from the merger is less than 100 points, but may be challenged if the increase is more than 100 points; c) mergers resulting in a HHI above 1,800 will not be challenged if the increase is less than 50 points; if it is above 50 points the merger may raise significant competitive concerns; if it is above 100 points the merger is likely to create or enhance market power or facilitate its exercise.

As regards the SGA market, the merger of *Alcoa/Reynolds* would increase HHI by 530 points to a level of approximately 1,800[185]. The change in market concentration was sufficient to cause competitive concerns, because the increase exceeded 100 points.

However, as mentioned above, market shares and concentration constitute only two of the factors taken into account in the competitive assessment and therefore they are not in themselves conclusive of market power. Between the factors that affect the significance of market shares and concentration, the guidelines list two: changing market conditions and the degree of difference between products inside and outside the market[186].

In the US practice, however, market shares and concentration become important only when they reach very high levels[187]. In *Alcoa/Reynolds,* the US authorities seemed to have placed more weight on these factors than usual because they considered the moderate market share of 38% and the equally moderate concentration level of 1,800 as sufficient to produce unilateral and coordinated effects. According to

[185] See Complaint para.17.
[186] §§ 1.521 and 1.522.
[187] A recent review of US enforcement trends reveals that the median HHI level for cases that were closed (that is, not challenged) by the US agencies has stayed at around 2,500 since the mid-1980s, while for cases subject to challenge the median HHI had been 5,000 or more since 1991. See Philip Nelson, Simon Baker, Simon Bishop and Derek Ridyard "The European Union's new Horizontal Merger Guidelines" 17-SUM *Antritrust,* 2003, 57, 61.

a DOJ official[188], the merger of *Alcoa/Reynolds* would reduce the number of firms from 6 to 5 and this was considered a cause of concern. However, as will be shown below, other market features also played a role in the competitive assessment and therefore it cannot be safely concluded that market shares and concentration were the crucial factors in this case.

5.4.4 Unilateral effects in the SGA market

On the issue of unilateral effects the Complaint reads:
"By merging with Reynolds, Alcoa's market share will increase to nearly 40 percent of world SGA capacity. Because demand for SGA is so inelastic, this increase in market share will significantly enhance Alcoa's incentive and ability to exercise market power unilaterally by reducing its output in the SGA market. Alcoa would have sufficient market share to profit from the increase in price caused by a unilateral reduction in output"[189].

5.4.4.1 Unilateral effects analysis under the 1992 guidelines-Comparisons with the EU.

The guidelines basically accept two settings under which unilateral anticompetitive behaviour can arise. The first is when firms are "distinguished primarily by differentiated products"[190] and the second when "firms are distinguished primarily by their capacities", which refers to homogeneous products[191]. The two settings correspond to the simplistic Betrand and Cournot models of competitive behaviour as suggested by industrial organisation theory. The common element of the two models is that mergers, in the absence of entry and efficiencies, will lead to increases in market power[192].

In the Bertrand model demand substitutability between the differentiated products is the source of market power, while in the homogeneous products Cournot model the focus is on capacity. According to this model, firms producing a

[188] See William Kolasky "Coordinated Effects in Merger Review: From Dead Frenchmen to Beautiful Minds and Mavericks", Speech before the ABA Section of Antitrust Law Spring Meeting Washington DC April 24, 2002.
[189] See Complaint of May 3, 2000, at para.19.
[190] § 2.21.
[191] § 2.22.
[192] See Starek III and Stockum *op.cit.*173, 814.

homogeneous product under the same cost conditions first must commit to their output or productive capacity, and the price becomes that which clears the market of this output[193].

The guidelines do not require high market shares for establishing unilateral effects as is traditionally the case with the Commission's dominance doctrine. However, it is obvious that situations similar to those covered by single dominance in Europe are also covered. The guidelines also state that the section on competitive effects considers only "some" of the means by which mergers can result in anticompetitive effects and that "mergers will be analysed in terms of as many potential adverse competitive effects as are appropriate"[194]. Economic literature has developed various unilateral effects theories and models, which could all be applicable in appropriate mergers[195]. In practice merger analysis in US is a much more complex task than the Betrand and Cournot models suggest.

Unilateral effects, which were incorporated into the guidelines in 1992, were viewed by some commentators in the US as a means for revitalising "submarket" analysis, which was prevalent prior to the 1982 guidelines and which was an attempt to assert that firms with small market shares in the relevant market wielded market power because they had a large market share in a narrower product category, which came to be known as a submarket[196]. Such criticism may not be completely unfounded at least concerning US courts, which, as shown, have often resorted to submarket analysis for assessing unilateral effects[197]. Also, market shares and concentration, the main tools of structural analysis, which had been considered outdated, seem to return into play, since the existence of "unilateral" market power is associated with the existence of some "significant market share"[198]. This means that even if market shares and concentration constitute only the starting point for assessing the competitive effects of a merger, under unilateral effects analysis they have a more

[193] See *ibid.*
[194] §2.0
[195] Unilateral effects theories have been classified in two basic categories: "dominant firm" type models and "oligopoly" models (see David T. Scheffman and Mary Coleman "Quantitative Analysis of Potential Competitive Effects from a Merger", June 9, 2003.
[196] See also Starek III and Stockum *op.cit.*173, 814; also, William J. Blumentahl "Thirty-One Merger Policy Questions Still Lingering After the 1992 Guidelines", 38 *Antitrust Bull.*, 1993, 593, at 626. For the concept of submarket see in the product market definition, above.
[197] See the analysis on product market definition above.
[198] See also Starek III and Stockum *op.cit.*173, 804; also §1.0 of the 1992 guidelines.

important role: merger guidelines make clear that a 35% market share[199] of the merging firm could be a minimum threshold for the examination of unilateral effects.

The practical application of unilateral-effects methodology comprises use of econometric tools and empirical models for evaluating merging firm's incentives and opportunities to raise prices. In this context, the development of merger simulation has been the most important recent development. Simulation, generally, uses economic models grounded on the theory of industrial organisation to predict the effect of mergers on prices in the relevant markets[200]. The technique, which produces best results in markets involving differentiated products, seeks to offer assessments of competitive effects and remedies that are beyond the reach of other methods of inquiry[201]. For example, simulation has been used to evaluate whether the potential merger-specific efficiencies resulting from the merger are sufficient to offset predicted increases or to evaluate the adequacy of proposed divestitures[202]. Some technique's proponents have gone so far as to argue that its ability to predict the anticompetitive effects of a merger, renders unnecessary or even useless the market definition, particularly with respect to differentiated products, and that therefore structural analysis based on market shares and concentration is not needed[203].

However, even if merger simulation, which is based on anecdotal evidence, offers useful assistance to antitrust agencies, it should be made clear that real market conditions are not fully reflected in these techniques. This is so because most simulation models do not take into account market imperfections[204], while their credibility relies upon the assumptions and data lying behind it and whose harmony with the real market conditions should be checked[205]. Also, the complexity of the models makes more difficult an assessment of their validity[206].

[199] §§ 2.211, 2.22
[200] See also Roy J. Epstein and Daniel Rubinfeld "Merger Simulation: A Simplified Approach with New Applications" 69 *Antitrust L.J.*, 2002, 883; also Gregory J. Werden "Simulating the Effects of Differentiated Products Mergers: A Practical Alternative to Structural Merger Policy", 5 *Geo.Mason L.Rev*, 1997, 363.
[201] Epstein and Rubinfeld *ibid.*
[202] *Ibid.*
[203] See in the analysis of beverage cans market in other chapter of the thesis where the issue is discussed in more details.
[204] Such imperfections could include, amongst others, the potential exhibition of irrational behaviour by consumers and/or producers in the future, potential existence of consumers loyalties and uncertainties about consumers future behaviour due to the existence of national of other factors (see also, Shepherd et al *op.cit.*156, at 843).
[205] See Note "Analysing Differentiated-Product Mergers: The Relevance of Structural Analysis" 111 *Harv.L.Rev.*, 1998, 2420, 2430-2432.
[206] See also Gregory J. Werden "A Perspective on the Use of Econometrics in Merger Investigations and Litigation" 16 *Antitrust*, 2002, 55, 56.

The difficulties arising in the application of simulation can partly explain the cautious stance of US courts against them. According to a former DOJ member, "...[j]udges are more accustomed to making decisions based on facts about what happened; in mergers, they are called on to predict what might happen in the future...More and more when we go to court, the judges seem to be asking for concreteness; the anecdotal evidence seems less important to them..."[207]

Compared with the unilateral-effects doctrine of the guidelines the old dominance test of the Merger Regulation was narrower in scope since the "single dominance" concept did not seem to cover also certain situations of unilateral markets power, such as those where the merger would result in the establishment of a second largest player capable of raising prices unilaterally, despite the existence of a market leader[208]. Such situations however, are covered by the US SLC test and guidelines and thus the dominance test appeared not to cover all the types of anticompetitive effects resulting from mergers[209].

This deficiency in the European test was solved through the adoption of a new substantive test in the ECMR, which through its new doctrine on non-collusive oligopolies, now covers those types of unilateral effects that were not covered by the dominance test. Moreover, the new Commission Guidelines on the assessment of horizontal mergers in the section dealing with non-coordinated effects set the criteria and methodology for the assessment of unilateral effects other than dominance[210].

The list of market factors, which are relevant with unilateral effects and are mentioned in the Commission guidelines, includes amongst others the closeness of competition between firms and the possibility the competitors to be unlikely to increase supply if prices increase[211]. Both these factors are mentioned also in the unilateral effects section of the US Guidelines and this constitutes a strong indication of the convergence of EU and US policies on the issue.

However, and given that so far the unilateral effects doctrine of the Commission has not yet been tested in practice, we will have to wait to see if the Commission will follow the US practices or will follow its own path.

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[207] See Constance Robinson "Quantifying Unilateral Effects in Investigations and Cases" 5 *Geo. Mason L.Rev.*, 1997, 387, 387.

[208] The EU dominance test is connected to the traditional dominance model, which involves a "large" firm (post-merger), and a competitive fringe (see Scherer and Ross, *op.cit.*163, 224-26; also Jonathan Faull and Ali Nikpay *The EC Law of Competition*, Oxford University Press, 1999, paras.1.154-1.156)

[209] This issue is addressed in more details in the chapter dealing with beverage can market.

[210] Para.25 of the Commission guidelines.

[211] Ibid. paras.28-30 and 32-35 respectively.

In any case we could say that both the EU and US tests now cover the entirety of anticompetitive effects arising from mergers with no exceptions.

5.4.4.2 Unilateral effects in the SGA market.

The US DOJ, as shown, considered that the merger of *Alcoa/Reynolds* would enhance Alcoa's ability to exercise unilateral market power by giving the firm sufficiently high market share to profitably increase SGA prices by reducing output. Alcoa's ability would be also facilitated by the highly inelastic demand for SGA.

SGA is a homogeneous product whose examination falls within section 2.22 of the 1992 guidelines, which deals with "firms distinguished primarily by their capacities". The principles concerning the analysis of "differentiated capacities" were set forth as follows:

> "Where products are relatively undifferentiated and capacity primarily distinguishes firms and shapes the nature of competition, the merged firm may find it profitable to raise prices and suppress output. The merger provides the merged firms a large base of sales on which to enjoy the resulting price rise and also eliminates a competitor to which customers otherwise would have diverted their sales."

Concerning "relatively undifferentiated products" consumers consider the products of the merging firms and those of their competitors as relatively close substitutes[212]. In such cases the potential unilateral effects could arise where "capacity primarily distinguishes firms and shapes the nature of their competition", which means that the level of capacity determines the competitive role of the firms in the market. In the SGA market where refineries operate at nearly full capacity to be cost-efficient, and the expansion of this capacity is a difficult investment it is certain that all SGA producers' market role is strongly dependent on the level of their production capacity.

Further, section 2.22 recognises the important role of market shares for establishing unilateral effects:

> "Where the merging firms have a combined market share of at least thirty-five percent, merged firms may find it profitable to raise prices and reduce output below the sum of their premerger outputs because the lost markups on the foregone sales may be outweighed by the resulting price increase on the merged base of sales".

[212] See also Starek III and Stockum *op.cit.*173, 820.

In *Alcoa/Reynolds* the post-merger market share of the merging firms was 38% thus falling within the threshold of the guidelines. The next step for the DOJ was therefore to assess the possibility of unilateral effects as a result of the merger.

In this respect section 2.22 reads:

"unilateral effect is unlikely unless a sufficiently large number of the merged firm's customers would not be able to find economical alternative sources of supply i.e. competitors of the merged firm likely would not respond to the price increase and output reduction by the merged firm with increases in their own outputs sufficient in the aggregate to make the unilateral action of the merged firm unprofitable. Such non-party expansion is unlikely if those firms face binding capacity constraints that could not be economically relaxed within two years or if existing excess capacity is significantly more costly to operate than capacity currently in use".

The focus therefore of the analysis shifts from the merged firm to the reaction of buyers and competitors to the attempt of that firm to increase prices by reducing output.

For the SGA market the DOJ's analysis similarly to the Commission concluded that buyers were not able to find alternative supply sources because the demand for SGA was highly inelastic, since there were not substitutes for SGA, while it was extremely costly for smelters (the buyers) to shut down their aluminium smelters in response to higher prices[213] As regards Alcoa's competitors they were capacity-constrained and would remain so for the two years following *Alcoa/Reynolds* merger. As a result, competitors were unable to respond to an output reduction by Alcoa[214]. The DOJ's views about competitors can be seen in the agency's analysis about entry and expansion in the SGA market where it was stated that entry through "greenfield" and "brownfield" projects was slow, costly and difficult: a minimum-efficiency-scale greenfield refinery would cost $1billion and would take four years or longer from planning to operation, while for brownfield expansions, the DOJ referred to Worsley's expansion whose cost was $700 million and was expected to last 32 months[215]. Consequently, buyers and competitors were unable to prevent Alcoa from profitably raising SGA prices post-merger.

To support its argument the DOJ, like the European Commission, referred to the result of the explosion in Kaiser's Gramercy refinery in 1999, which removed 2% of world alumina capacity from the market forcing spot SGA prices to nearly triple and long-term prices to go up by 20-30%. The DOJ stressed the fact that no company

[213] See para.18 of the Complaint and section C of the Competitive Impact Statement.
[214] See para.21 of the Complaint.
[215] See *ibid.*

attempted entry or expansion in response to the Gramercy closure despite the significant price increase in SGA.

The reference to 2%, instead of the 7% of the European Commission, reflects the different relevant markets in the two decisions, but did not change the conclusions that Alcoa was controlling sufficient capacity to impose higher SGA prices. The firm would be, according to the DOJ, controlling approximately 19 million tonnes (mt) of SGA post-merger, which meant that a reduction of SGA output by 1mt, the equivalent of Gramercy's loss, would represent a reduction in Alcoa's total output by less than 6%. However, since after Gramercy SGA spot prices rose threefold and the prices of long-term contracts by 20-30%, it is obvious that the increase in prices through output reduction would be profitable for Alcoa. But even using as a measure only Alcoa's production for the merchant market, as proposed by the European Commission, there would still be profits for Alcoa. Alcoa's post-merger output for the merchant market would be approximately 8mt[216], of which a reduction by 1mt to 7mt, represented a decrease by approximately 12%. However, the remaining 7mt could be sold at 20%, 30% or even higher prices, which means that the output reduction would finally be profitable for Alcoa[217].

Apart from the different relevant markets, which affected the calculation of market shares and concentration in the market in the two decisions, the DOJ adopted also different timeframe for the examination of competitor's reaction. The DOJ applying the guidelines referred to two years, while the Commission, whose practice is generally more flexible, took into account capacity expansions planned for the period 1999-2003, that is for five years[218].

On the issue, the guidelines also state that "the timeliness and likelihood of non-party expansion will be analysed using the same methodology as used in analysing uncommitted or committed entry (sections 1.3 and 3) depending on the significance of the sunk costs entailed in expansion"[219].

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[216] See table 1 in the previous chapter. According to the information in that table Alcoa was prior to the merger selling 6.8mt of SGA on the merchant market and Reynolds 1.2mt.
[217] By way of example, if the pre-reduction prices of SGA were $150/t, Alcoa for its 8 million tons would receive $1.2 billion. If, following the reduction, SGA prices were to increase by 20% or more to $180/t, Alcoa for the 7mt would receive at least $1.26 billion or 5% more. Thus the reduction would be profitable.
[218] The Commission's Guidelines on horizontal mergers in para.74 using *Alcoa/Reynolds*, as an example, clarify that the appropriate time period for the examination of entry (and expansion) "depends on the characteristics and dynamics of the market, as well as on the specific capabilities of potential entrants".
[219] § 2.22, footnote 24.

Applying the guidelines' methodology on entry, US agencies examine both hit-and-run expansion[220], as well as expansion "that can be achieved within two years from initial planning to significant market impact"[221]. An issue arising concerns the exact beginning of the expansion period. In the entry theory, it is often assumed that the entry period begins when the price increase begins and that this also coincides with the initial plan of entry[222]. For the purposes of the analysis in *Alcoa/Reynolds* the timeframe included two years after the merger.

Another significant point in the US methodology concerns the distinction between expansions announced prior to the merger and those caused in response to the merger. The expansions of the former category according to section 3.2 are to be included in the measurement of the market, while only the expansions of the latter category are to be considered as possible deterrence against merged firm's attempt to increase prices.

Further the expansion is likely if "it would be profitable at premerger prices and if such prices could be secured [by the firm considering expansion]"[223].

The application of the above principles in *Alcoa/Reynolds* would mean that the US analysis would be somewhat different than that of the European Commission. More specifically the latter's analysis of entry and expansion included a list of SGA capacity expansions planned or underway by the merging parties and their competitors for the period 2000-2003 and concluded that these expansions would not threaten Alcoa's dominance[224].

Under the US methodology, such capacity expansions would be considered as parts of the market and would not be taken into account in the examination of the ability of competitors to react to the merger. Instead, the US agency would focus only on the potential of further expansions in reaction to the merging firms' attempt to increase prices by reducing output. It is the further expansion potential that matters for the US agencies and the ability of competitors to carry out such expansions within two years.

[220] § 1.32
[221] § 3.2
[222] See also John C. Hilke and Philip B. Nelson "The Economics of Entry Lags: A Theoretical and Empirical Overview", 61 *Antitrust L.J.*, 1993, 365, 367-369.
[223] § 3.3.
[224] See the Commission's analysis of entry and expansion in the SGA market, as presented and commented in the previous chapter.

However, the European Commission also made extensive reference to further SGA expansions stressing the ability of the merging parties to carry out bottom-cost further expansions and their ability to block, through participation with blocking interest in joint ventures with competitors, the latter' s ability to expand.

A last issue about the US methodology relates to the fact that, as with entry, expansion by competitors to be likely should be profitable at pre-merger prices. The meaning of the likelihood condition is examined in more details in the analysis of entry below. Regarding SGA it seems that DOJ focused more on the fact that capacity expansions by competitors were unlikely to occur within two years due to economic and other technical reasons than on whether the expansions would be profitable.

An important notice about the DOJ's analysis is that there is nowhere in the published documents any reference to Alcoa's ability to prevent capacity expansions by competitors by using its own expansion opportunities as a threat. This was a factor clearly contributing to Alcoa's ability to exercise unilateral market power and was pointed out in the European Commission's analysis. Instead, the DOJ, maybe relying on the "two-years" rule, mentioned only that competitors were unable to react timely due to their capacity-constraints and also because of the slow, costly and difficult nature of capacity expansions.

5.4.4.3 Conclusions

The DOJ's decision to establish unilateral effects in the SGA market from *Alcoa/Reynolds* merger was generally justified from the market evidence. Although Alcoa's post-merger market share generally could not be considered as high it was however sufficient from the market conditions to enhance the firm's ability to exercise market power by increasing SGA prices. The DOJ's findings were no different from those of the European Commission even if the two agencies applied different market tests.

The analysis above also clarified issues of practical application of the US unilateral effects doctrine thus helping to the comparison of the US policies on the issue with the equivalent of the European Commission.

5.4.5 Coordinated interaction in the SGA market

According to the Complaint, the merger of *Alcoa/Reynolds* would "increase the likelihood of anticompetitive coordination among the remaining firms in the world SGA market". The DOJ explained: "...The SGA market has certain characteristics conducive to anticompetitive coordination, including product homogeneity; stable, predictable and inelastic demand and supply; and transparency of actions by suppliers and customers"[225].

5.4.5.1 Coordinated interaction in the US merger guidelines: principles, application and comparison with the "collective dominance" doctrine of the European Commission

The theory on coordinated interaction suggests that a unilateral price increase by the merged entity is not profitable unless there are accommodating responses (*i.e.* output restrictions) by other significant competitors, and the evidence indicates that there will be sufficient accommodating responses[226].

Similarly, the 1992 guidelines state:

> "Coordinated interaction is comprised of actions by a group of firms that are profitable for each of them only as a result of the accommodating reactions of the others. This behaviour includes tacit and express collusion, and may or may not be lawful in and of itself"[227].

The guidelines' approach relies on the Stiglerian[228] basic analytical framework: "Successful coordinated interaction entails reaching terms of coordination that are profitable to the firms involved and an ability to detect and punish deviations that would undermine the coordinated interaction"[229]. The definition of Stigler recognises three requirements for successful coordinated interaction: the ability of the firms involved to reach profitable terms of coordination, to detect deviations from the agreed policy, and to punish such deviations. The US courts also accept Stigler's theory[230]. However, since 1964 when it was first put forward, newer theories sought to improve it. One such theory, which was incorporated into the guidelines is the theory on "mavericks", namely firms refusing to follow the industry consensus

[225] Para.20 of the Complaint.
[226] See Scheffman and Coleman *op.cit.*195.
[227] § 2.1
[228] George J. Stigler "A Theory of Oligopoly", 72 *Journal of Political Economy*, 1964, 44.
[229] § 2.1; see also Kolasky *op.cit.*188.
[230] See e.g. *Brooke Group Ltd v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 240 (1993) (suggesting that coordinated interaction is not possible where firms cannot effectively punish deviation from the coordinated outcome).

thereby constraining effective coordination. According to the theory[231], a merger resulting in the loss of a maverick is likely to facilitate coordination, unless another firm is well positioned to assume the role of maverick post-merger. Conversely, a merger eliminating a non-maverick firm is unlikely to increase coordination. However, in practice the task of identifying the market's maverick, which requires analysis of firm's behaviour, is complex[232].

In addition, the guidelines incorporate a "checklist" of industry characteristics that are likely to be conducive to coordinated outcomes. The guidelines recognise factors, such as key information concerning market conditions, transactions and individual competitors; the extent of firm and product homogeneity; pricing or marketing practices typically employed by firms in the market; the characteristics of buyers and sellers; and the characteristics of typical transactions[233]. The checklist along with market shares and concentration constitute basic tools of structural analysis. However, the "checklist" approach has been characterised[234] as too crude to provide much assistance in determining whether coordinating interaction really occurs, since many industries that fit the checklist do not exhibit outcomes consistent with coordinated interaction. For this reason a more in-depth analysis of the market focusing on firms' behaviour would be required.

Further, within the scope of the guidelines fall both tacit and express collusion even if such behaviour "may or may not be lawful in and of itself". The guidelines also cover cases of imperfect or incomplete collusion, which even if they do not achieve the monopoly outcome, are nevertheless harmful to consumers. In general, the guidelines under the term "coordinated interaction" refer to the whole spectrum of oligopolistic situations resulting from mergers, and which could cause competitive concerns[235].

However, the guidelines leave open the issue about the number of competitors required for successful coordination. Some guidance could come from the guidelines' approach to market shares and concentration[236]. Thus, the HHI critical level of 1800, which indicates high concentration, is equivalent to a market with 5.56 equal-sized

[231] See also Jonathan Baker "Mavericks, Mergers and Exclusion: Proving Coordinated Competitive Effects under Antitrust Laws" 77 *N.Y.U.L.Rev.*, 2002, 135; also Kolasky *op.cit.*188.
[232] More analytical presentation of the theory on mavericks takes place in the analysis of beverage can market in chapter 7. See also below.
[233] § 2.1.
[234] See Scheffman and Coleman *op.cit.*195, 7.
[235] See also Hovenkamp, *op.cit.*72, §12.1b.
[236] §1.5.

firms each with a market share of 18%, while five equally-sized firms with market share of 20% each equal HHI 2000[237]. One could therefore infer that a merger reducing the competitors' number from six to five is on the edge between competition and coordination. As will be shown below this was the case with *Alcoa/Reynolds* merger regarding the SGA market.

However, as explained above, the HHI level of 1800 has generally little practical importance, since the US agencies more often challenge mergers leading to post-merger median HHI of more than 2500.

The US courts, in establishing coordinated effects, have traditionally relied upon structural factors, such as market shares and concentration. However, as shown in the analysis of market shares and concentration above, the courts following the Supreme Court's decision in *United States v. General Dynamics*[238] and the subsequent Appeals Court decision in *United States v. Baker Hughes Inc*[239], which built on *General Dynamics,* now incorporate market shares and concentration along with all other relevant factors into a broad economic analysis of the competitive effects of the transaction[240].

In any case the issue of coordinated interaction, unlike unilateral effects, is well settled between US courts and competition agencies, since coordination has traditionally been the main source of concern about mergers in the US, and therefore there are no differences in the approaches of the agencies and the courts.

Compared with the doctrine of collective dominance of the European Commission, the US approach to "coordinated interaction" is more clear-cut and more complete. The guidelines establish an explicit methodology for analysing coordinated effects while their scope covers the whole spectrum of such effects.

Conversely, in the EU the Commission's collective-dominance doctrine under which coordinated effects are covered is more inflexible. The application of the doctrine, which focuses on situations of express and tacit collusion, has thus far focused almost only on duopolies[241], even if the Commission's analysis in many cases

[237] See Ky P. Ewing "The Soft Underbelly of Antitrust: Some Challenging Thoughts For the New Millennium" *Antitrust Report,* 9-1999.
[238] 415 U.S. 486 (1974).
[239] 908 F.2d 981 (D.C. Cir. 1990).
[240] See also Baker *op.cit.*229, at 149. A more recent case that confirmed the above policy is the *Federal Trade Commission v. H.J.Heinz Co.* (246 F.3d 708 (D.C. Cir. 2001)). However, in H.J.Heinz the Court recognised the significance of concentration particularly in a merger to duopoly.
[241] See also Peder Christensen and Valerie Rabassa "The Airtours Decision: Is There a New Commission Approach to Collective Dominance?" 22 *E.C.L.Rev.* 2001, 227, 235.

concerned oligopolies with more than two firms[242]. In general the doctrine is more oriented towards situations of symmetrical duopolies, while the Commission appears to believe that collusion in broad or asymmetric oligopolies is not sustainable[243]. Also, the strict language used in the old dominance test of the Merger Regulation which referred to mergers leading to the creation or strengthening of *a* dominant position had initially led to debates on whether oligopolies were covered at all by that test. Even if the Commission established a collective dominant position in a merger case, as early as in 1991[244], it took at least until 1998, with the ECJ's decision in *Kali & Salz*[245] to become absolutely clear that the dominance test was applicable to oligopolies. Moreover, it was as late as 2002 with the CFI decision in *Airtours*[246] when it became clear that the concept of collective dominance could not cover non-collusive oligopolies.

However, the adoption recently of a new substantive test in the Merger Regulation and the issue of the Commission guidelines could help to eliminate these inflexibilities of EC merger control. The new test by referring to significant impediment to effective competition can also include broad oligopolies, while the Commission guidelines contain an explicit methodology for assessing coordinated effects[247]. This methodology is generally similar to the US one, since it refers to the same criteria, namely reaching terms of coordination, monitoring deviations and deterring mechanisms. In addition, the Commission guidelines, which do not establish a new policy but merely clarify issues of the Commission's daily practice, also provide for the examination of the reaction of outsiders, such as non-coordinating firms, potential competitors and customers that may be in position to break the oligopoly. This additional criterion is not provided by the US guidelines, but is nevertheless taken into account as one of the factors relevant with the analysis of coordinated effects. Moreover, the Commission guidelines, like the US ones, include

[242] See e.g. Case IV/M.484 *Krupp/Thyssen/Riva/Falck/Tadfin/AST* [1995] OJ L251/18 (duopoly or five-firm oligopoly in cold-rolled stainless steel flat products); case IV/M.942 *Veba/Degussa* [1998] OJ L201/102 (three firm oligopoly in diamines/polyamines). In these cases the Commission did not find collective dominance.

[243] The Commission's hesitance in establishing collective dominance in situations involving broad oligopolies can be seen in its decision in *Price Waterhouse/Coopers & Lybrand* (Case IV/M.1524 [1999] 4 CMLR 665) where the Commission stated: "From a general viewpoint, collective dominance involving more than three of four suppliers is unlikely simply because of the complexity of the interrelationships involved and the consequent temptation to deviate; such a situation is unstable and untenable in the long term".

However, the analysis of *Alcoa/Reynolds* shows that collusion is feasible and possible also in broad oligopolies.

[244] The first collective dominance case was M.190 *Nestle/Perrier* (1992); [1992] OJ 356/1; [1993] 4 CMLR M17.

[245] Cases C-68/94 and 30/95 *France v. Commission* [1998] ECR I-1375, [1998] 4 CMLR 829.

[246] Case T-342/99 *Airtours v. Commission* [2002] ECR II-2585

[247] See paras.39-60 of the Commission Guidelines

also a checklist of structural factors related to coordinated interaction, such as stable and symmetrical market shares, product homogeneity and stable demand.

Generally speaking, the methodology and criteria that US agencies and the Commission apply in the assessment of coordinated effects has always been almost similar[248], while differences could be found in the interpretation and assessment of market evidence and potentially in the scope of the two market tests with the European test appearing to be more hesitant to prohibit broad oligopolies.

5.4.5.2 Coordinated interaction in the SGA market

The public documents in *Alcoa/Reynolds* provide limited information about the coordinated effects of the merger. The Complaint and the Competitive Impact Statement refer to certain features of the SGA market, which make it conducive to anticompetitive coordination, such as product homogeneity, stable, predictable and inelastic supply and demand, and transparency of actions by suppliers and customer. These structural market features are generally included in the checklist about tacit collusion but do not in themselves explain how the merger would alter the competitive conditions in the SGA market towards coordination.

More illustrative in this respect is the reference to the *Alcoa/Reynolds* merger by a senior DOJ official who stated: "...We found...that the merger would reduce the number of firms from 6 to 5, while increasing Alcoa's market share from 29 to 38 percent...We [also] found...high entry barriers...[and] a history of coordination and price signalling. Finally, we found that Reynolds was a potential maverick because it had more excess capacity than other small competitors, while Alcoa would be well positioned post-merger to discipline a cartel because it would not only be the largest producer but would also have substantial excess capacity, which would enable it credibly to threaten to punish cheating"[249].

From the references of the DOJ official becomes clear that apart from the checklist factors, the agency looked also on newer theories on oligopolies, such as the theory of mavericks for assessing Reynolds's behaviour pre-merger. Moreover, the

[248] According to Juan Briones who examined the analytical framework regarding oligopolies in different jurisdiction including the EU and US ones: "...there are more similarities than differences in the analytical framework used by different jurisdictions to analyse oligopolies" (see Juan Briones "Oligopolistic Dominance: Is There a Common Approach in Different Jurisdictions? A Review of Decisions Adopted by the Commission under the Merger Regulation" 16 *E.C.L.Rev.* 1995, 334, at 334).
[249] See Kolasky *op.cit.*188.

DOJ looked also to dynamic factors, such as the use of Alcoa's substantial excess SGA capacity as a threat for punishing cheating by competitors. These two factors along with evidence of past coordination and price signalling in the industry seem to have played an important role in the decision of the DOJ to challenge on grounds of coordinated effects a six-to-five merger, which could not in terms of concentration indicate a highly concentrated market post-merger.

It is therefore useful for assessing the DOJ's decision regarding SGA to examine in more detail the treatment by guidelines of the two factors: maverick firms and excess capacity.

According to the guidelines "...[i]n some circumstances, coordinated interaction can be effectively prevented or limited by maverick firms-firms that have a greater economic incentive to deviate from the terms of coordination than do most of their rivals (e.g. firms that are unusually disruptive and competitive influences in the market). Consequently acquisition of a maverick firm is one way in which a merger may make coordinated interaction more likely, more successful, or more complete"[250]. In addition to the guidelines' definition the concept of maverick also encompasses firms that constrain coordination from becoming more likely or more effective without necessarily starting price wars or otherwise appearing observably disruptive[251]. In simple terms, the competitive significance of a maverick is significantly greater than would be indicated by its market share[252].

The guidelines provide an example of a maverick firm:

"...[i]n a market where capacity constraints are significant for many competitors, a firm is more likely to be a maverick the greater is its excess or divertable capacity in relation to its sales or its total capacity, and the lower are its direct and opportunity costs of expanding sales in the relevant market. This is so because a firm's incentive to deviate from price-elevating and output-limiting terms of coordination is greater the more the firm is able profitably to expand its output as a proportion of the sales it would obtain if it adhered to the terms of coordination and the smaller is the base of sales on which it enjoys elevated profits due to the price cutting deviation"[253].

About Reynolds the DOJ official referred to the firm's excess capacity, which was more than that of other smaller producers as a reason for considering it as maverick but it seems that the firm concentrated also other features indicating a maverick firm, such as low costs.

[250] §2.12
[251] See also Baker *op.cit.*231, at 140.
[252] See also Scheffman and Coleman *op.cit.*195, at 3.
[253] § 2.12

In more detail, as shown in the previous chapter, the firm was controlling 56% stake in Worsley refinery, Australia, which had one of the lowest operating costs in the world.. Moreover, Reynolds was completing in 2000, the year of the merger with Alcoa, a capacity expansion of 1.2mt in Worsley, which would thus reach a capacity of 3.1mt. Worsley could be further expanded to 4mt, which was the refinery's operational limit[254]. According to the European Commission's analysis Worsley provided Reynolds with sufficient low-cost excess capacity to deviate against coordination and also to escape punishment by Alcoa[255].

Using the terminology of the US guidelines the above findings therefore confirmed that Reynolds, in a market where most firms were capacity constrained, had relatively big excess and low-cost capacity compared to its total capacity, which enabled the firm to expand profitably its sales in the relevant market, to a level that would safeguard higher profits than if it followed coordinated policies with other firms. Moreover, the firm had sufficient capacity to respond to an attempt by its competitors, mostly Alcoa, to punish it.

However, even if the above findings about Reynolds were true, this would not necessarily mean that the firm was really a maverick. This was because the firm, even if capable, might not have an incentive to constrain coordination. For instance, competitors might be able to retaliate also in other markets where the firm had presence thus, increasing the cost of deviation[256]. Reynolds apart from SGA was also operating in the market of primary aluminium and other downstream markets where it was competing against almost the same competitors as in SGA, particularly Alcoa[257]. Another reason might have been that deviation would not serve the long-term strategy of the firm.

For such reasons competition authorities before deciding whether a firm (or firms) is the market's maverick (or mavericks) should look also to the firm's incentives and to its existing and past policies. The economic theory has suggested certain methods for identifying mavericks[258]. One such method is by observing whether the firm at issue really constrains industry pricing. A second method is by using natural experiments such as examining whether the factors affecting the firm's

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[254] See the analysis of entry and expansion in the SGA market in the previous chapter.
[255] See paras.52-56 of the European Commission's decision.
[256] For such a retaliation see also Bishop and Walker, *op.cit.*44, para.7.60
[257] See also the analysis regarding bidding process in the SGA market in the previous chapter.
[258] See also Baker *op.cit.*231, 173-175.

pricing policy are firm specific or not: if they are, then it is likely that firm to be a maverick. A third method, refers to *a priori* factors and relies on understanding the reasons for which a firm would prefer a high or low price in the specific market.

In respect of Reynolds, there is no information about whether the firm acted in the past as a maverick but only that according to DOJ the firm had sufficient excess SGA capacity. Also, the European Commission's analysis, even if it stressed the competitive significance of Worsley refinery, did not say whether Reynolds really used the latter to keep prices down. The Commission only referred to a SGA supply contract won by Billiton -Reynolds's partner with minority stake at Worsley- only because of Worsley, which enabled the firm to offer lower price than Alcoa[259].

Moreover, the DOJ official above referred to the history of coordination and price signalling in the industry, which indicated that firms preferred to coordinate than compete and it cannot be seen why Reynolds would be any different. According to the theory of mavericks, a merger resulting in the loss of a non-maverick firm is unlikely to lead to increased coordination[260] and, therefore, if Reynolds was not a maverick its elimination would not greatly change post-merger competition in the SGA market. However, it seems that the DOJ, after taking into account all the available evidence, considered that Reynolds played a significant role in the maintenance of effective competition in that market and therefore its removal would enhance the risk of coordination between the remaining players.

The acquisition of Reynolds by Alcoa would reinforce further the existing Alcoa's excess capacity, which could be used to punish deviations. According to the guidelines "...excess capacity in the hands of non-maverick firms may be a potent method with which to punish deviations from the terms of coordination"[261]. In the SGA market all firms, including Alcoa, run their refineries in full capacity to be cost-efficient. However, as shown in detail in the analysis of unilateral effects above and also in chapter 4, Alcoa's biggest advantage concerned its ability to expand its SGA capacity faster than its competitors and in refineries with the lowest operating costs in the world. Alcoa could also, if it decided to undercut production to raise SGA prices, use the mothballed capacity as an additional threat against any attempt by its competitors to respond by increasing their own production. This was because the firm

[259] See para.56 of the Commission's decision.
[260] See Kolasky, *op.cit.* 188.
[261] See footnote 19 of the guidelines.

could make unprofitable the attempt by competitors to expand their production capacity by returning the undercut SGA to the market, thus causing prices to fall, before the competitors' new production entered into the market (capacity expansions in the SGA market take almost two years to complete)[262]. As a result, Alcoa was capable of using the above advantages for threatening its competitors, as the European Commission's analysis also made clear. Following the acquisition of Reynolds, the firm would acquire more bottom-cost SGA capacity and capacity-expansion potential and therefore the firm would have more weapons to use for disciplining competitors.

However, given that Alcoa had sufficiently excess capacity, why would not it have been the market's maverick? According to the guidelines, a firm is more likely to be a maverick the greater is its excess or divertable capacity in relation to its total capacity and the lower are its direct and opportunity costs of expanding sales in the relevant market. Alcoa presumably had significant excess capacity and would acquire more following the merger. The firm was also able to carry out significant capacity expansions in bottom-cost refineries, which could be used for higher sales. Moreover, Alcoa could not be punished by its competitors because the most of these competitors were capacity-constrained and the firm had sufficient excess capacity to retaliate. However, it seems that the firm preferred supra-competitive SGA prices to competitive ones for reasons related to both the SGA and aluminium markets. In the latter market Alcoa was also the largest player and as shown in the previous chapter higher SGA prices generally mean higher aluminium prices. This in turn means that Alcoa might prefer to see as high SGA prices as is possible and this is probably easier to achieve through coordination with competitors.

Further, could Alcoa be a non-collusive ("barometric") price leader, which does not harm competition? According to the relevant theory[263], one firm is acknowledged by its competitors as the price leader -due amongst others to its size or to its more efficient management- which is capable of reacting timely and effectively to the changing market conditions. The leader adjusts market prices and, in due course, the other firms follow suit. Such a situation might not be the result of coordinated interaction, since it could occur also under competitive conditions. For instance, an increase in raw-material prices increases costs across industry and, as a result, all

[262] See in the analysis of unilateral effects above.
[263] For a formal analysis of price leadership (collusive and non-collusive) see Scherer and Ross *op.cit.*163, at 221-226 and 357-365

competitors may raise prices simultaneously, beginning with the market leader. Such a price leadership, which is more effective with homogeneous products, is not harmful to competition unless it is the result of an agreement[264].

However, a barometric price leader has no power to substantially influence prices or to discipline deviating firms otherwise the situation is one of collusive price leadership[265]. Regarding the SGA market Alcoa's ability to discipline its competitors was clear due to its excess SGA capacity, while regarding its ability to influence prices was due to its ability to effectively restrict SGA output. As a result, Alcoa could not be a barometric price leader.

Concerning structural features of the SGA market, such as product homogeneity, stability and predictability of supply and demand, and transparency of actions by suppliers and buyers, which were mentioned in the DOJ's analysis, these issues were examined in detail in the previous chapter. In that chapter it was also shown how suppliers could coordinate their behaviour to achieve higher prices in SGA tenders, in which the bulk of SGA is sold.

5.4.5.3 Conclusions

The DOJ's decision on coordinated effects in the SGA market was generally justified from the market conditions. Although the merger by reducing the number of big competitors from 6 to 5 would not lead to very high concentration levels in the market, it was the other market features and the behaviour of the merging firms and their competitors in the past which indicated that the market was in enhanced risk of coordination post-merger.

In terms of merger control the *Alcoa/Reynolds* case demonstrated the increased flexibility of the US SLC test compared with the Commission's collective dominance doctrine, since the US competition authorities did not hesitate to challenge a merger reducing the number of competitors from 6 to 5, something which does not happen

[264] E.g. in *National Macaroni Mfrs. Ass'n v. FTC*, 345 F.2d 421 (1965), in the wake of a durum wheat crop failure, pasta manufacturers reduced quality by changing the pasta recipe. This could have been a unilateral decision by an industry leader that was followed by the rest of the industry. If that were the case, then the leader-follower behaviour would not have been collusive. However, in reality the US court found explicit agreement, which indicated collusion (see also Roger D. Blair and Jill Boylston Herndon "Inferring Collusion from Economic Evidence" 15-SUM *Antitrust*, 2001, 17, 18). Similarly in EU law the existence of barometric price leadership does not make parallel action unlawful (see Jones and Sufrin, *op.cit.*45, 665-666).

[265] See also Scheffman and Coleman, *op.cit.*193 at 19; also Faull and Nikpay *op.cit.*206, at 1.159; Julio J. Rotenberg and Garth Saloner "Collusive Price Leadership" 39 *J.Ind.Econ.* 1990, 93.

under the Commission's practice. However, another source of difference may have been the fact that under the SLC test, which focuses on the reduction of competition, it is possible to establish both unilateral and coordinated effects in the same case, unlike Europe where under the dominance test the Commission could establish either single or collective dominance but not both effects. However, under the new European test this problem was eliminated and it is now possible for the Commission to establish, as in the US, both effects for the same case. This issue will be discussed in detail in chapter 7 of the thesis.

5.4.6 Entry in the SGA market

About entry in the SGA market the Competitive Impact Statement states:
"An increase in output of SGA in response to anticompetitive price increases is unlikely to be timely or sufficient to undermine the price increases. Firms are currently operating at or near capacity and are expected to continue to do so during at least the next two years. Successful entry through the construction of a new "greenfield" alumina refinery or through the expansion of an existing "brownfield" refinery is slow, costly and difficult. A minimum efficiency scale greenfield refinery could cost $1 billion and take four years or longer from planning to operation. Reynolds' expansion of its Worsley refinery is costing $700 million and was scheduled to take thirty-two months. No company attempted entry or expansion in response to the Gramercy closure despite the significant increase in SGA prices after the closure".

<u>5.4.6.1 Entry analysis under the 1992 Guidelines: analysis, comments and comparisons with the EU.</u>

Section 3 of the 1992 guidelines establishes three criteria for assessing "whether committed entry would deter or counteract the competitive effect of concern"[266]. The three criteria concern timeliness, likelihood and sufficiency of entry. If entry meets

[266] §3.

these criteria then the merger "is not likely to create or enhance market power or facilitate its exercise" either collectively or unilaterally.

Section 3 deals only with "committed" entry or "new competition" associated with sunk costs and which "can be achieved within two years from initial planning to significant market impact"[267] and excludes assessment of "uncommitted" entry, which is examined in the relevant market definition. Also, expansions of capacity by incumbent competitors in a market where unilateral effects arise are examined in section 2.22, which deals with such effects. Thus, section 3 deals with "new competition", namely firms that do not currently sell in the market but would probably enter into it in case of an anticompetitive price increase by the incumbent firms acting "either collectively or unilaterally".

Regarding timeliness, the guidelines state:

"[t]he Agency generally will consider timely only those committed entry alternatives that can be achieved within two years from initial planning to significant market impact"[268].

The meaning of "significant market impact" is not clear. According to one view, the term means generally that "...the firm must build its plant, arrange its distribution system and markets, get the kinks worked out of its system, and begin adding its output to that of the market"[269]. Regarding durable goods for which the two-year period may not be appropriate the guidelines provide that it is possible to examine entry occurring outside that period if that entry will deter or counteract the competitive effects within the two-year period and subsequently[270].

Also, the guidelines state that agencies should not take into account firms, which have committed to entering into the market prior to the merger because such firms are generally included in the measurement of the market[271].

Further, entry is likely if "it *would* be profitable at pre-merger prices and if such prices could be secured by the entrant" [italics added][272]. This implies that the agency will rely entirely on objective criteria for determining whether entry will effectively discipline monopoly pricing. Such a conclusion could be more clearly inferred from section 3.1 where it is stated that the agency will evaluate entry "without attempting to

[267] § 3.2.
[268] § 3.2.
[269] See Herbert Hovenkamp, *op.cit.*72, §12.6d.
[270] § 3.2.
[271] *Ibid.*
[272] § 3.3.

identify who might be potential entrants"[273]. However, the guidelines use the term "would" instead of "could" for profitable entry, which means that the agencies should prove that the firm would enter and not that it could enter, which is more speculative. Thus, even if the identification of the potential entrant is not required, the "would be" clause provides for designing its profile[274].

Respecting entries with significant sunk costs, as in the case of SGA, the guidelines provide that firms examining such an entry should evaluate its profitability "on the basis of long-term participation in the market, because the underlying assets will be committed to the market until they are economically depreciated"[275].

For evaluating the entry profitability the guidelines have developed the concept of "minimum viable scale", which is "...the smallest average annual level of sales that the committed entrant must persistently achieve for profitability at pre-merger prices"[276]. The guidelines state that entry is unlikely if "the minimum viable scale is larger than the likely sales opportunity available to entrants". As a rule of thumb, the guidelines suggest that an entry plan may not be plausible if the minimum viable scale exceeds 5% of total market sales.

Lastly, profitable entry should be sufficient to deter or counteract the anticompetitive effects of the merger otherwise it is not taken into account[277].

Respecting US courts, they generally accept the idea that easy entry makes a merger harmless to competition regardless of market concentration[278]. However, it seems that the courts are more willing to find easy entry than competition agencies. More specifically the courts' stance has been characterised as being closer to the concept of "uncommitted" entry, namely unlimited, low sunk-cost and rapid entry, which does not require identification of potential entrants, and as ignoring "committed" entry, which involves sunk costs and whose analysis takes into account also newer theories of strategic behaviour by incumbent firms[279].

[273] See also Hovenkamp *op.cit.*72, §12.6d.
[274] See also Baker *op.cit.*126, 363.
[275] § 3.0.
[276] § 3.3.
[277] § 3.4.
[278] See e.g. *United States v. Waste Management Inc.*, 743 F.2d 976, 978, 983-84 (2d Cir. 1984); *Accord, United States v. Calmar Inc.*, 612 F. Supp. 1298, 1306 (D.N.J. 1985).
[279] The criticism refers to two appeals courts decisions in *United States v. Baker Hughes Inc.* (980 F.2d 981 (D.C. Cir. 1990)) and *United States v. Syufy Enters* (903 F.2d 659 (9th Cir. 1990)) in which the courts rejected on the grounds of ease of entry the DOJ's pleas to block the mergers. The two decisions followed the ruling in *Waste Management* above but were criticised for overestimating the ability of committed entrants to cure the competitive problem. The two decisions paved the way for establishing in the 1992 guidelines the three criteria for evaluating committed entry, thus distinguishing that entry from the "uncommitted" one (see also Jonathan Baker "Responding

Regarding committed entry the relevant methodology seeks to determine if not who the new entrants might be, at least whether these entrants would be profitably capable of deterring the exercise of market power by the merging firms acting unilaterally or in coordination. Committed entry is also affected by the potential of strategic reaction by incumbents against new entrants[280].

The authors of the 1992 guidelines, by making for the first time the distinction between "uncommitted" and "committed" entry and by setting out the "timeliness", "likelihood" and "sufficiency" criteria for assessing the latter, sought to clarify the distinction between the two types of entry and to incorporate into entry analysis newer theories of strategic behaviour, but it is not very clear if they achieved their scope.

Even if proponents of the 1992 guidelines argue that US courts see positively the new approach, this cannot yet be said with maximum certainty[281], while recently an FTC senior official raised concerns that agencies never find uncommitted entry and that the methodology for evaluating committed entry is impractical given the limits of available information[282].

Compared with the European Commission's policy about entry, the guidelines' methodology is not very different.

One could say that the latter methodology is generally more rigorous, compared with the relatively more flexible policy of the European Commission. Thus, the two-year rule for examining committed entry does not exist in the Commission's policy, which considers that the appropriate time period should depend on the characteristics and dynamics of the market as well as on the specific capabilities of the potential entrants[283]. However, the period normally taken into account by the Commission in the examination of entry is as in the US two years[284].

Also, the Commission guidelines establish criteria similar to the US guidelines, namely likelihood, timeliness and sufficiency, for assessing entry effect[285]. However, in respect of likelihood, the Commission guidelines do not require entry to be profitable at pre-merger prices as in the US but only to be sufficiently profitable

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to Developments in Economics and the Courts: Entry in the Merger Guidelines" in *20th Anniversary of the 1982 Merger Guidelines: The Contribution of Merger Guidelines to the Evolution of Antitrust Doctrine*, June 10,2002.
[280] See also Baker *ibid.*
[281] See Baker *ibid.*
[282] See Leary, *op.cit.*127. On the issue see also, Malcolm B. Coate and A.E. Rodriguez "Pitfalls in Merger Analysis: The Dirty Dozen" 30 *N.M.L.Rev.*, 2000, 227, at 244-245.
[283] See para 74 of the Commission guidelines.
[284] *Ibid.*
[285] See paras 78-86.

"...taking into account the price effects of injecting additional output into the market and the potential responses of the incumbents"[286]. Also the Commission guidelines avoid reference to "minimum viable scale" but talk about entry "...economically viable on a large scale...resulting in significantly depressed price levels"[287].

However, the Commission guidelines, as the US ones, state that the existence of sufficient entry deters or defeats the anticompetitive effects of the merger.

5.4.6.2 Entry in the SGA market

Expansion by incumbent firms in the SGA market was examined in the analysis of unilateral effects above where it was shown that sufficient reactions by competitors were unlikely to be timely and sufficient to deter Alcoa from exercising unilateral market power. It was also shown, in accordance with the DOJ's analysis, that capacity expansions in existing refineries or construction of new refineries required significant capital costs and lead time of more than the two years laid down in the guidelines. As a result, the high sunk costs along with the long lead-time constituted sufficient barriers to expansion in the SGA market.

Similar problems with incumbents would face a new competitor, since that competitor would have either to build new refineries or to acquire existing ones and expand their production thus facing the difficulties that incumbent players had. As a result new entry was unlikely to deter Alcoa from exercising market power unilaterally or in coordination for the two years following the merger with Reynolds.

However, as mentioned also in the analysis of unilateral effects, the DOJ's analysis focused only on the inability of competitors to respond timely and sufficiently and did not refer to Alcoa's ability to further prevent such responses by acting strategically. The issue was important and concerned the risk of coordinated interaction. If Alcoa was capable of preventing new entry by making it unprofitable then the risk of coordinated interaction in the SGA market would further increase because an external threat to coordination would be eliminated.

Regarding sunk costs, which were implicitly mentioned by the DOJ as constituting barriers to entry in the SGA market, it must be said that the US courts

[286] Para.69.
[287] *Ibid.*

have not always considered such costs as constituting *per se* entry barriers[288]. The issue also raises the conflicting theories between economists about the definition and role of entry barriers in merger analysis[289]. The situation is clearer when high sunk costs are associated with long lead-time, namely the time between the entry decision and the earliest market impact[290]. In such cases the risk of entry increases and this constitutes entry barrier. This as shown occurred in the SGA market and, as a result, the DOJ's decision to consider on such grounds that entry in the SGA market was difficult, was justified.

Compared with the European Commission's, decision the DOJ's analysis came to the same conclusions and the only difference is that at least in the US published texts for *Alcoa/Reynolds* there is no reference to the ability of Alcoa to act strategically in order to deter new entry in the SGA market.

5.4.7 Efficiency gains

The published US texts like the European Commission's decision do not include any references to possible efficiency gains to from *Alcoa/Reynolds* merger.

However, according to public statements by Alcoa's executives the firm was expecting to realise from the merger synergies of approximately US$300 million by 2002, of which US$80 million, on an annualised basis, was set to come from personnel reduction in Reynolds's headquarters in Richmond, Virginia[291].

5.4.7.1 Efficiency defence under the 1992 guidelines: analysis, comments and comparison with the EU.

[288] E.g. in *Los Angeles Land Co. v. Brunswick Corp.* (6 F.3d 1422, 1428 (9th Cir. 1993)) the court held: "...The mere fact that entry requires a large absolute expenditure of funds does not constitute a 'barrier to entry'; a new entrant is disadvantaged only to the extent that he must pay more to attract those funds than would an established firm". Similarly in *Advo, Inc. v. Philadelphia Newspapers, Inc.* (51 F.3d 1191, 1200 (3rd Cir. 1995)) the court ruled: "High capital requirements...pose no barrier to entry". In contrast, in *FTC v. Illinois Cereal Mills,* (691 F. Supp. 1131, 1138, 1144 (N.D. III. 1988)) the court recognised the value of asset specificity, or suck costs, as entry barriers.

[289] Aspects of this conflict along with the result of their economic analysis on the entry-inducing effects of Horizontal mergers are presented by Gregory Werden and Luke M. Froeb in "The Entry-Inducing Effects of Horizontal Mergers: An Exploratory Analysis" Vol. XLVI *The Journal of Industrial Economics*, 1998, 525.

[290] See e.g. *FTC v. Illinois Cereal op.cit.*285, at 1145 (it took nine years for another firm to build a new plant, suggesting high entry barriers); *FTC v. Owens-Illinois, Inc.* (681 F.Supp. 27, 51 (D.D.C.), vacated as moot, 850 F.2d 694 (D.C. Cir. 1988)) (two year lead time with significant sunk expenditures entailed high entry barriers). See also Hilke and Nelson *op.cit.*222, 371-372.

[291] See Christopher Bowe and Nikki Tait "At a crossroads after acquisitions: Alcoa", in FT Survey: *Aluminium 2000,* Oct. 25, 2000; see also "Alcoa's Earnings Up 57% From Year-Ago Quarter On a 38% Increase in Revenues", *Business Wire,* July 10, 2000.

The US competition authorities in 1997 incorporated into the 1992 guidelines a revised Section 4, which developed a new doctrine on the examination of efficiencies, an issue controversial and difficult.

Section 4 repeats the presumption found also in 1984 and 1992 guidelines, that "the primary benefit of mergers to the economy is their potential to generate...efficiencies"[292] and states that efficiencies "can enhance the merged firm's ability and incentive to compete, which may result in lower prices, improved quality, enhanced service, or new products".

Next, Section 4 establishes the concept of "cognisable" efficiencies, which refer to "merger-specific efficiencies that have been verified and do not arise from anticompetitive reductions in output or services". Competition authorities will not challenge a merger if cognisable efficiencies are sufficient to counteract the anticompetitive effects of the merger[293].

Concerning "merger-specific", the guidelines state that competition authorities will consider "only those efficiencies likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another means having comparable anticompetitive effects"[294]. The term "likely" indicates that efficiencies considerations should be made on the basis of likelihood and not of mere feasibility[295]. Regarding "means having comparable anticompetitive effects", which refer to formations less than mergers, such as joint ventures or competitor collaborations[296], the guidelines provide that "only alternatives that are practical in the business situation faced by the merging firms will be considered in making this determination"[297].

In sum, the guidelines seek efficiencies that are likely to be achieved by the merger and which cannot be practically achieved by any other means less than merger[298]. However, the guidelines recognise the practical difficulties associated with

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[292] A senior DOJ economist has summarised the preference to efficiencies over competition as follows: "efficiency is the goal, competition is the process" (see Kenneth Heyer, Address before the Merger Task Force of the European Commission's Directorate General for Competition, April 9, 2002).
[293] §4.
[294] *Ibid.*
[295] See also William Kolasky and Andrew Dick "The Merger Guidelines and the Integration of Efficiencies into Antitrust Review of Horizontal Mergers" in *20th Anniversary of the 1982 Merger Guidelines: The Contribution of Merger Guidelines to the Evolution of Antitrust Doctrine*, June 10, 2002, at 29.
[296] *Ibid.* at 28.
[297] §4.
[298] See also Robert Pitofsky "Efficiencies in Defence of Mergers: Two Years After" 7 *Geo.Mason L.Rev.* 1999, 485, at 486.

the verification and quantification of efficiencies and therefore require the merging parties to substantiate efficiency claims "so that the Agency can verify by reasonable means the likelihood and magnitude of each asserted efficiency, how and when each should be achieved (and any costs of doing so), how each would enhance the merged firm's ability and incentive to compete, and why each would be merger-specific"[299]. However, even if the guidelines refer to verification by "reasonable means", meaning that efficiencies may not necessarily need quantification to be accepted[300], there is still the practical problem of their assessment[301]. In this respect the development of merger simulation, which seeks to offer quantitative predictions on the possible effects of mergers on prices could offer some support for the quantification of efficiencies[302]. However, merger simulation even if it seems to gain ground between economists has not generally won wide approval yet[303].

Another open issue in the guidelines is whether efficiencies should be passed to consumers to be "cognisable". On one hand, the guidelines state: "the Agency considers whether cognisable efficiencies likely would be sufficient to reverse the merger's potential to harm consumers in the relevant market, e.g. by preventing price increases in that market"[304]. On the other hand, it is also stated: "The Agency also will consider the effects of cognisable efficiencies with no short-term, direct effect on price in the relevant market"[305]. Thus, while on the whole the guidelines seem to lean towards a price or consumer-welfare effect of efficiencies, it is nevertheless possible to apply also the "total welfare" approach, which views all efficiencies positively, whether or not they were passed onto consumers in the form of lower prices[306].

Further, the guidelines provide that the agency within its prosecutorial discretion "...will consider efficiencies not strictly in the relevant market but so inextricably linked with it that a partial divestiture or other remedy could not feasibly eliminate the anticompetitive effect in the relevant market without sacrificing the efficiencies in the

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299 §4.
300 Kolasky and Dick, *op.cit.*295, 29.
301 About the difficulties that agencies face when assessing efficiencies claims see Graig W. Conrath and Nicholas A. Windell "Efficiency Claims in Merger Analysis: Hostility or Humility?" 7 *Geo.Mason L.Rev.* 1999, 685.
302 See also Epstein and Rubinfeld, *op.cit.*200, 883; also Conrath and Windell *ibid.*, 693-694.
303 Issues concerning merger simulation were examined in the analysis of unilateral effects above and will also be examined in other chapters of the thesis below.
304 §4.
305 See footnote 37.
306 See also Gregory Werden "An Economic Perspective on the Analysis of Merger Efficiencies" 11-SUM *Antitrust* 1997, 12, at 14. Similarly, Kolasky and Dick *op.cit.*294, 32, consider that the guidelines adopt a hybrid consumer welfare/total welfare model regarding efficiencies.

other(s) market"[307]. The above provision could be deemed as paving the way for the approval of mergers that harm some consumers[308]. However, the guidelines say that inextricably-linked efficiencies "are most likely to make a difference when they are great and the likely anticompetitive effect in the relevant market(s) is small"[309].

Lastly, concerning the difficult task of balancing efficiencies against anticompetitive effects, the guidelines adopt a sliding scale for this purpose by providing that the greater the anticompetitive effects, the greater must be the cognisable efficiencies for the agency to conclude that the merger will not have an anticompetitive effect in the relevant market. When the potential adverse effects of a merger are likely to be large, extraordinarily great cognisable efficiencies would be necessary to prevent a merger from being anticompetitive. Regarding mergers to monopoly or near-monopoly, the guidelines state that efficiencies will never justify such mergers[310].

However, it must be mentioned that the ultimate purpose of merger analysis under the guidelines is to conclude whether the merger will "substantially lessen competition" in line with the language of Section 7 of Clayton Act and in this respect the examination of efficiencies precedes the final decision regarding the competitive effects of the mergers[311].

Regarding the stance of US courts, the trend over the past years seems to favour the consideration of efficiencies claims of merging parties, even if there is almost no decision which cleared, an otherwise anticompetitive merger, on efficiencies grounds[312]. However, all recent decisions refer to lower courts, since the US Supreme Court has not decided on efficiency claims since 1967, when in *FTC v. Procter & Gamble Co.*[313] it dismissed such claims because "possible economies cannot be used as a defence to illegality". The lower courts' decisions seem to permit an efficiency defence to rebut showing of anticompetitive effects based on market shares and concentration but they have not thus far articulated specific rules for evaluating the defence[314].

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307 Footnote 36.
308 See Kolasky and Dick *op.cit.*295, 32.
309 Footnote 36.
310 See §4.
311 See also Werden *op.cit.*306, 13.
312 See also Conrath and Windell *op.cit.*301, 689-690.
313 386 U.S. 568 (1967).
314 A relatively clear case is *FTC v. University Health, Inc.* (938 F.2d 1206 (11th Cir. 1991)) in which the court said: "...in certain circumstances a defendant may rebut the government's *prima facie* case with evidence showing

Also, after the entry into force of the revised section 4 of the guidelines in 1997, there have been at least three court cases with extensive efficiencies analysis: *FTC v. Staples Inc.*[315], *FTC v. Cardinal Health Inc.*[316] and *FTC v. Heinz*[317]. In all three cases, the appeals courts recognised the right of merging parties to raise efficiency defence and generally endorsed the guidelines framework of efficiencies' analysis[318], but they finally rejected the relevant claims.

Generally speaking, the trend in US Courts is to incorporate efficiency claims in the competitive effects analysis of mergers, but the courts appear reluctant to clear an otherwise anticompetitive merger on efficiencies grounds. However, this courts' stance is no different from the stance of competition agencies, which have not thus far cleared any anticompetitive merger on efficiencies grounds[319].

As a whole it seems that the efficiencies section of the guidelines needs further elaboration in order to become completely workable and that in its current form its biggest utility is that it incorporates efficiency claims into the competitive effects analysis[320].

Unlike in the US where the treatment of efficiencies in the context of merger control has been discussed in some detail, in the EU the situation is more nebulous. As shown in the previous chapters the treatment of efficiencies by the Commission appeared in merger decisions to be only implicit, while there have been cases where the Commission appeared to have been hostile to mergers creating efficiencies[321].

The issue in the EU concerns not only the Commission's practice but also the legislation, since the ECMR does not contain an explicit provision for the trade-off between the anticompetitive effects of the merger and efficiencies. The only provision, which has been used as the basis for examining efficiencies, is Article 2(1)(b) which refers to "technical and economic progress". However, and given that there has been thus far no Commission decision clearing an otherwise anticompetitive

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that the intended merger would create significant efficiencies in the relevant market". On the issue see also David Balto "The Efficiency Defence in Merger Review: Progress of Stagnation?" 16-Fall *Antitrust*, 2001, 74.

[315] 970 F.Supp. 1066 (D.D.C. 1997).

[316] 12 F. Supp. 2d 34 (D.D.C. 1998).

[317] 116 F. Supp. 2d 190 (D.D.C. 2000), rev'd, 246 F.3d 708 (D.C. Cir. 2001).

[318] See also Balto *op.cit.*314, 78.

[319] See also *ibid.*

[320] This was well summarised by Robert Pitofsky, FTC chairman at the time of the drafting of section 4: "Given the many limitations and qualifications on the successful assertion of an efficiency defence, it will be difficult to reverse what otherwise would be a finding of illegality. That is as it should be. The goal of the merger revisions was to open the door to efficiency claims as part of the competitive effects analysis in close cases –not to give away the whole enforcement enterprise" (see Pitofsky *op.cit.*298, 493; Balto *op.cit.*314, 79-80).

[321] The *GE/Honeywell* (Case COMP/M.2220 (Decision of 3 July 2001)) merger is a case where according to some commentators the Commission demonstrated hostile attitude towards efficiencies.

merger on the basis of efficiencies it is still questionable whether Article 2(1)(b) constitutes adequate legal basis for the examination of efficiencies[322].

The Commission's practice until recently to adopt a cautious stance towards efficiencies could be deemed justified. The dominance test, which was until recently the substantive test of the ECMR, required a high standard of anticompetitive effects for the merger to be blocked and when such standard was established any efficiencies argument would have little chances of success[323]. Besides, as also the US guidelines recognise efficiencies are more likely to make a difference when the anticompetitive effects of the merger are not great. Thus, when a merger produces a dominant firm it is difficult an efficiency defence to change this situation.

However, the adoption as of May 1, 2004, of a new substantive test in the ECMR, which expands the scope of merger control beyond market dominance, brings the role of efficiencies into fore. Even if Article 2(1)(b) of the ECMR was not amended in the latest reforms, the Commission guidelines on the assessment of horizontal mergers provide an analytical methodology for the assessment of efficiencies.

According to the guidelines, Article 2(1)(b) of the ECMR remains the legal basis for the examination of efficiencies meaning that the consumer-welfare standard proposed by that Article is the sole standard for efficiencies. This is in relative contrast with the US guidelines, which as shown above, leave open the application also of the total-welfare standard.

Further, as with the US guidelines, the Commission guidelines provide that efficiencies, if sufficient in magnitude, could counteract the adverse effects to competition from the merger and thus lead to clearance of the merger[324].

Moreover, the Commission guidelines talk about "substantiated" efficiencies[325], which as in the US indicates that the burden of proving efficiencies claims are on the parties.

Also, similar to the US guidelines, the Commission guidelines establish three criteria for the examination of efficiencies claims. Thus claimed efficiencies must a) benefit consumers[326]; b) be merger-specific meaning that the parties must prove that there are no less anticompetitive means than the merger for realising these

[322] See also Alison Jones and Brenda Sufrin *op.cit.*45, 953.
[323] See also chapter 3.
[324] Para.77 of the Guidelines.
[325] *Ibid.*
[326] *Ibid.* paras.79-84.

efficiencies[327]; and c) be verifiable meaning quantification of efficiencies where possible or at least ability to foresee a "..clearly identifiable possible impact on consumers".[328]

Generally speaking, the efficiencies doctrine of the Commission's guidelines is close to the US one. Possible sources of difference in the two jurisdictions concern the applicable welfare standard and of course issues of practical application because we have not seen yet how the Commission intends to apply its efficiencies doctrine.

However, judging from the Commission's conservative approach to efficiencies so far and the objective difficulties concerning the practical application of the doctrine, one should not expect in the near future radical changes from the current Commission's practice.

5.4.7.2 Efficiency gains in the SGA market.

In *Alcoa/Reynolds* case, potential merger-specific efficiencies had to be sufficient to address both the unilateral and the coordinated effects of the merger.

According to section 4 of the guidelines, regarding unilateral effects "marginal cost reductions may reduce the merged firm's incentive to elevate prices", while regarding coordinated interaction "marginal cost reductions may make coordination less likely or effective by enhancing the incentive of a maverick to lower price or by creating a new maverick firm".

Regarding SGA the biggest cost savings would come through reductions in administrative staff at Reynolds's headquarters, which, however, affect fixed rather than marginal costs. Fixed-cost savings are generally irrelevant, since they lead to higher and not to lower prices and therefore could not be seen favourably by section 4 of the guidelines[329].

From Alcoa's announcement it does not follow that the firm was expecting any other large-scale cost savings from the merger apart from the abovementioned fixed-cost reductions. Thus, for a firm with combined annual sales of US$20 billion, cost savings of US$300 million within three years were rather immaterial and therefore insufficient to address concerns of unilateral market power and coordinated

[327] *Ibid.* para.85.
[328] *Ibid.* paras.86-88.
[329] See also the analysis of efficiencies for the SGA market in the previous chapter.

interaction in the SGA market. Moreover, raising efficiencies issues in that merger would work against the merging firms, since according to economic theory, a merger which produces no or limited merger-specific efficiencies is likely to lead to higher prices[330].

As a conclusion, the efficiencies produced by *Alcoa/Reynolds* were not sufficient to counteract the anticompetitive effects of the merger.

5.4.8 Remedies

According to the Final Judgment[331], in order to gain the approval of the merger the merging parties were ordered to divest the Worsley interest within 270 days after the filing of the Complaint in this matter or 5 days after notice of entry of the Final Judgment by the Court whichever was later. Moreover, the merging parties had to sell the Corpus Christi Assets "within 180 days after the filing of the Complaint in this matter, or 5 days after notice of entry of the Final Judgment by the Court, whichever was later[332].

The divestiture assets had to be sold as viable and ongoing businesses to a purchaser or purchasers in such a way as to satisfy "the United States, in its sole discretion"[333]. The purchaser/s should have the "intent to compete effectively in the refining and sale of SGA" and have "the managerial, operational and financial capability to compete effectively in the refining and sale of SGA"[334]. Moreover the Final Judgment provided measures seeking to ensure that the merging parties would not be capable of preventing the purchaser/s after the acquisition from competing effectively against them[335].

The decision on the remedies was explained as follows: "Divestiture of the Divestiture Assets preserves competition because it will restore the world SGA

[330] See Joseph Farrell and Carl Shapiro "Horizontal Mergers: An Equilibrium Analysis" *Am.Econ.Rev.* March 1990, 107, 112.
[331] The proposed Final Judgment was filed on May 3, 2000 along with the Complaint and the other documents, in the context of the settlement of *Alcoa/Reynolds* merger and became final after it gained the approval of the Court (see also section 5.2.3 above).
[332] Section IV, A of the Final Judgment.
[333] *Ibid.* at I.
[334] *Ibid.*
[335] In particular Section IV(I) of the Final Judgment states: "none of the terms of any agreement between the purchaser or purchasers and [the merging parties], including any joint venture, governance, operation, or shareholders agreements, shall give [the merging parties] the ability to limit the purchaser's capacity or output, to raise a purchaser's costs, to lower a purchaser's efficiency, or otherwise to interfere in the ability of the purchaser or purchasers to compete effectively.

...market to the structure that existed prior to the acquisition and will preserve the existence of independent competitors..."[336]. More specifically "[d]ivestiture of the Worsley Interest and the Corpus Christi Assets preserves competition...by requiring Alcoa to sell virtually all of the world-wide SGA refining capacity owned by Reynolds"[337]. In addition to these assets and in accordance with the European Commission's decision Alcoa had been forced to sell Reynolds's Stade refinery in Germany.

The District Court examined the merger and concluded that the proposed by the DOJ Final Judgment was "in the public interest" after taking in to account the following factors as set forth in 15 U.S.C. §16(e)[338]:

1. the competitive impact of such judgment, including termination of alleged violations, provisions for enforcement and modification, duration of relief sought, anticipated effects of alternative remedies actually considered, whether its terms are ambiguous, and any other competitive considerations bearing upon the adequacy of such judgment that the court deems necessary to a determination of whether the consent judgment is in the public interest; and

2. the impact of entry of such judgment upon competition in the relevant market or markets, upon the public generally and individuals alleging specific injury from the violations set forth in the complaint including consideration of the public benefit, if any, to be derived from a determination of the issues at trial.

5.4.8.1 Remedies in the US merger policy -Comparison with the EU.

The US Supreme Court in *United States v. Du Pont De Nemours & Co*[339] made clear that the agencies' first responsibility concerning remedies should be to preserve free and open competition and therefore "the key of the whole question of an antitrust remedy is... the discovery of measures effective to preserve competition". As a result,

[336] See section III of the Competitive Impact Statement.
[337] *Ibid.*
[338] These provisions of the Tunney Act include the Amendments made in 2004, which however do not differ significantly from the provisions existed when the Alcoa/Reynolds decision was made.
[339] 366 U.S. 316, 326 (1961).

consumers should benefit from the same degree of competition after a merger as before a merger[340]. Protection of consumer welfare prevails in any decision on remedies[341].

Moreover, the decision on the remedies takes into account potential efficiency gains to the extent that is possible without compromising the obligation to preserve competition[342]. The main goal of the US competition authorities is therefore to find remedies sufficient to eliminate the competitive problem without cancelling the efficiency gains of the merger[343]. Regarding efficiencies in particular, a basic concern of competition agencies is whether efficiencies are "sufficiently likely to be passed on to consumers to outweigh the risks that the restructuring will not fully restore pre-existing competition"[344].

Regarding the timeframe for the examination of remedies, the US agencies, particularly the DOJ, demonstrate some flexibility.

A basic illustration of this flexibility could be found in "fix-it-first" policy, which was first developed by the DOJ and allows the merging parties to restructure, mostly though divestments, and by themselves, an otherwise problematic merger at an early stage and then seek approval of the deal from the agency[345]. The agency then, if satisfied from the restructuring, could approve the merger without filing a judicial complaint and consent decree, which would be normally required for such a case to close the deal[346]. Given that in the US there is no notification deadline for mergers – another factor of flexibility- the merging parties could potentially divest overlapping businesses in certain problematic markets even before notifying the merger to competition agencies[347]. The fix-it-first policy, therefore, is considered as providing for a fast approval of a merger, which benefits both merging firms and consumers.

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[340] See also Richard G. Parker and David A. Balto "The Evolving Approach to Merger Remedies", *Antitrust Report*, 2000; also Robert Pitofsky "The Nature and Limits of Restructuring in Merger Review", Remarks in the Cutting Edge Antitrust Conference, Law Seminars International, New York, Feb. 17, 2000. See also section II of the DOJ Guidelines on merger remedies, which were published on October 2004.

[341] See Pitofsky *ibid.*; also according to a DOJ official: "...the goal is to effectively remedy the violation for the benefit of consumers, maintaining competition at pre-merger level" (see Deborah Platt Majoras "Antitrust Remedies in United States: Adhering to Sound Principles in a Multi-faceted Scheme" Speech before Canadian Bar Association, National Law Section, October 4, 2002.

[342] See Parker and Balto, *op.cit.*339.

[343] See David Balto and James Mongoven "Antitrust Remedies in High Technology Industries" 708 *PLI/Pat* 2002, 113, 117-118. See also section 2 of the DOJ Guidelines on merger remedies.

[344] See Pitofsky *op.cit.*339.

[345] More details about the "fix-it-first policy" of the DOJ are provided in section IV of the DOJ guidelines on merger remedies.

[346] See Hewitt Pate "Antitrust Enforcement at the United States Department of Justice: Issues in Merger Investigation and Litigation" *Colum.Bus.L.Rev.*, 2003, 411, 422-423; also Majoras *op.cit.*340.

[347] In the US notification is a prerequisite only to closing the transaction but not a legal requirement in itself (see Venit and Kolasky, *op.cit.*111, 89).

However, the policy has attracted some criticism focusing, amongst others, on arguments that the agency accepts remedies only to avoid investigative work or that the agency accepts remedies at an early stage when market investigation has not been completed yet and therefore the agency has not enough information to effectively consider whether there is, in fact, a violation to redress[348]. Conversely, a quick solution is a basic argument in favour of the policy along with saving taxpayers', the parties', and third parties' time and expense[349]. However, the FTC's approach on the issue is relatively different, since the agency will normally require a consent decree (official settlement) before closing the merger[350].

The agencies are not biased in favour of any type of remedies, but seek the most appropriate to fully restore competition. However, the US Supreme court has considered divestiture as the "most drastic" and "most effective" remedy for anticompetitive mergers and has stressed that this remedy should always be "in the forefront of a court's mind when a violation...has been found"[351]. The Court has also held that a divestiture order should not be limited to restoring the *status quo ante*, but that it should provide, where necessary, additional "relief" to allow the divested business "an opportunity to establish its competitive position"[352]. However, apart from divestiture, there have been a number of cases where agencies were willing to accept licensing arrangements (especially in high-technology markets), supply agreements and certain behavioural remedies, such as non-discrimination provisions[353].

Respecting divestiture, the US agencies examine a list of options, such as up-front buyers for the divested assets, "as is" divestiture of ongoing businesses, divestitures of "crown jewel" assets[354] when parties fail to meet the agency's divestiture timetable,

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348 See Majoras *op.cit.*340.
349 *See ibid.* Also section 4 of the DOJ guidelines on merger remedies.
350 See William Baer and Ronald Redcay "Solving Competition Problems in Merger Control: The Requirements for an Effective Divestiture Remedy" 69 *G.W.L.R.*. 2001, 915, 927.
351 *United States v. E.I. Du Pont de Nemours & Co.*, 366 U.S. 316, 326 (1960). The DOJ guidelines on merger remedies also consider that divestiture is the preferred remedy.
352 *Ford Motor Co. v. United States*, 405 U.S. 562 (1972)
353 See also Parker and Balto, *op.cit.*339.
354 In the case where parties fail to meet the timetable for finding satisfactory buyer/s for the divested assets, the agencies can exercise rights under the consent decree to empower the trustee to auction the assets up for divestiture and, if that fails, the agencies can authorise the trustee to divest an even more attractive package of assets (the "crown jewel") (See also Federal Trade Commission, *A Study of the Commission's Divestiture Process*, 1999, 30-31). However, the DOJ guidelines on merger remedies stress in section IV that the DOJ "disfavours the use of crown jewel provisions because generally they represent acceptance of either less than effective relief at the outset or more than is necessary to remedy the competitive problem".

"clean sweep" divestitures[355] mostly in horizontal mergers, the so-called "zero-delta" policy[356], and mix-and-match[357] divestitures. From the above list the US agencies seem to prefer divestiture of ongoing businesses to up-front buyers because they believe that such a remedy is most likely to create a viable competitor[358].

On the issue, the FTC published in 1999 an influential study "of the Commission's divestiture process"[359], which examined divestiture orders, issued between 1990-1994, on mergers and acquisitions reviewed by the agency. The study analysed the competitive position of the divested assets after their acquisition by the new owner and drew conclusions about the validity of the FTC's divestiture decisions. The publication of the study provided new insight into the divestiture process and affected the future developments in that area not only in the US[360] but also in other jurisdictions[361]. Also in October 2004 the DOJ issued Guidelines on merger remedies[362]. The document is addressed to the DOJ's attorneys and economists and seeks to provide them "..with a framework for fashioning and implementing appropriate relief short of a full-stop injunction in merger cases[363]".

The European Commission's approach is not very different from that of the US. The Commission's policy can be seen in the Commission's Notice on remedies, which was adopted in December 2000. According to the Notice, which reflects the Commission's practice under the Merger Regulation, the parties should submit remedies sufficient to "eliminate the creation or strengthening of...a dominant position"[364]. Similarly to the US, the Commission's practice is to accept only remedies that are capable of fully addressing competitive concerns and restoring competition[365].

[355] "Clean sweep" divestiture requires either party to divest all of its assets used to conduct business in the relevant market (see also Joe Sims and Michael McFalls "Negotiated Merger Remedies: How Well do They Solve Competition Problems?" 69 *G.W.L.R.*, 2001, 932, 948-949).
[356] "Zero-delta" policy refers to sales to non-incumbent players (see also Sims and McFalls *ibid.*, 949).
[357] "Mix-and-match" divestitures refer to assets of both parties. For the approval of such divestments US competition authorities are more careful since there are rather significant uncertainties about the joint function of these assets since there is no past experience and the addition of a new owner further complicates the situation (See also Parker and Balto *op.cit.*339).
[358] See also Parker and Balto *op.cit.*339; also the FTC's Divestiture Study *op cit.*349, 10-12.
[359] See *op.cit.*352.
[360] See Parker and Balto *op.cit.*339.
[361] About the EU see below.
[362] The text of the guidelines is available on the website of the DOJ.
[363] *Ibid.*
[364] Para. 6 of the Notice. The adoption of the new substantive test in the ECMR in the latest reforms will lead to the revision of the Commission's Notice in order to fully comply with the new regime.
[365] See also, Mario Monti "The Commission's Notice on Merger Remedies: One Year After" Speech before CERNA, Paris, January 18, 2002.

Also, as in the US, the Commission strongly prefers structural remedies through divestitures than behavioural ones and the Notice provides guidance for assessing such remedies. The Commission's preference is for the sale of a "viable" business to a "suitable" buyer[366], which constitute the European equivalents of "ongoing" businesses and "up-front" buyers used in the US. In general, the Notice on remedies was largely inspired by the FTC's divestiture study and has adopted many of the proposals therein[367].

However, meeting the relatively strict and detailed requirements for "viable" businesses and "upfront" buyers, as well as other remedies, such as "crown jewel" divestitures, increases the burden on the merging parties, which have also to comply with the Commission's demands within the strict timeframe of the ECMR[368]. In this respect, the European approach to remedies is generally more stringent and inflexible than the US one, even if the deadlines of the ECMR have been extended in the latest reforms to the ECMR[369].

In any case the provisions of the Notice on remedies and their significant connection with the FTC's divestiture study constitute evidence that the EU and the US jurisdictions converge in their remedial policies[370], as they do in other areas of merger control.

5.4.8.2 Remedies in the SGA market

The competitive assessment of *Alcoa/Reynolds* concluded that the merger would result in both unilateral and coordinated effects in the SGA market. More specifically, the DOJ's analysis, as presented above, concluded that the merger would enhance Alcoa's ability to exercise unilateral market power because it would give the firm sufficiently high market share to raise prices unilaterally by reducing the SGA output. Moreover, the merger would increase the likelihood of coordination in a market that was already concentrating features facilitating such coordination, such as product homogeneity, stable demand and market transparency. Although the published

[366] See para.19 of the Notice.
[367] This was explicitly recognised by the European Commissioner for Competition Mario Monti *op.cit.*363.
[368] Issues regarding the timeframes for the submission of commitments by the merging parties are examined in the context of the analysis of European merger review process in other part of the thesis.
[369] See also in chapter 2 of the thesis.
[370] On the issue, see also Simon Holmes and Sarah Turnbull "Remedies in Merger Cases: Recent Developments" 23 *E.C.L.Rev.*, 2002, 499.

documents did not explain how the merger would affect the risks of coordination, a DOJ official revealed that the merger would reduce the number of SGA suppliers from six to five, while Reynolds was pre-merger competitively important, as a potential maverick. Lastly, the DOJ in its decision on the competitive effects of the merger took also into account the high entry barriers and the inability of incumbent competitors to constrain Alcoa's unilateral market power or to break coordination.

For these reasons any decision on remedies should be sufficient to address both unilateral and coordinated effects of the merger.

The DOJ's decision ordered the divestiture of Reynolds's Worsley and Corpus Christi assets, which, along with the divestiture earlier of Stade refinery in Germany, would deprive the merged firm of all Reynolds's SGA refining capacity worldwide. Such a solution was considered as sufficient to preserve competition because it would restore "world SGA market...to the structures that existed prior to the acquisition" and would "preserve the existence of independent competitors" in that market.

Before commenting on the US decision, it is necessary to recall the different market definition, which the US competition authorities followed, compared with the European Commission. In particular, the relevant market of SGA, according to the DOJ, included both SGA sold in the merchant market and that used internally by integrated firms, and was worldwide. Conversely, the European Commission had defined product market as including only merchant SGA and, in geographic terms, only the Western world. For this reason the Commission was satisfied with the divestiture of only Stade and Worsley refineries, which were considered as sufficient to solve the competitive concerns for the western-world-merchant-SGA market, while the DOJ ordered also the divestiture of Corpus Christi refinery, which would eliminate overlaps in the broader worldwide all-SGA market. However, these differences in market definition and in remedies could potentially be associated with certain consequences for a proper competitive assessment of the merger, as will be shown in the next chapter.

The US remedial decision was typically sufficient to address the unilateral effects of the merger because Alcoa's market share would return to the pre-merger level but this could not be confirmed before the owner of Reynolds's assets was identified. This was so because competition should be restored not only quantitatively but also qualitatively. Qualitative restoration would be particularly important for a market such as SGA, which was already concentrating features conducive to coordination and in which Reynolds had significant competitive presence pre-merger. According to the DOJ official, the firm was potentially a market maverick, namely an aggressive competitor, which, amongst other competitors, was constraining also Alcoa's ability to exercise market power unilaterally. The restoration therefore of competition in the SGA market should not only seek to deprive Alcoa of Reynolds's SGA assets, but also to ensure that these assets would be acquired by a firm willing to replace Reynolds as a maverick.

In addition, the issue of Alcoa was particularly important, since as shown in more details in the previous chapter[371], the firm had already prior to the merger been capable, by using its capacity-expansion opportunities as a threat, to constrain the ability of its competitors to compete. In simple words, Alcoa was already prior to the merger capable of exercising "some" unilateral market power. Reynolds was one of the firms, which potentially resisted Alcoa's market power and its elimination without replacement by an equally effective competitor would further enhance Alcoa's ability to exercise such power unilaterally even if the latter's market share post-merger would remain unchanged. Thus, Alcoa's market power was not based only on its market share but also on other factors.

Respecting coordinated effects, the DOJ's argument that the divestitures would "preserve independent competitors in the market" is not very clear. The DOJ potentially implied that if Reynolds's assets were sold to independent competitors, these competitors would be capable of competing against coordinating oligopolists as Reynolds did. However, there are two questions arising: first, who were these competitors? And second, would these competitors be able to compete independently only because the acquired assets would enable them to do so or would it be a matter of management decision? An answer to the first question is given below. Regarding the second question, it has to be said that apart from the bottom-cost Worsley refinery, the acquisition by a new buyer of the high-cost Corpus Christi and Stade refineries would not provide sufficient motives to the management of that buyer (or buyers) to compete against the oligopoly, since these assets would not transfer any competitive advantage to their new owner[372]. On the other hand Worsley refinery would provide some cost-advantage and it was therefore absolutely necessary the refinery to pass to a buyer pursuing independent competition.

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[371] See the analysis of entry and expansion in the SGA market in chapter 4.
[372] The production costs in these assets can be seen in table 7 in the previous chapter.

On the issue of the selection of an appropriate buyer for the divestiture assets, the DOJ guidelines on merger remedies provide for three "fundamental" tests, which a successful buyer should pass[373]:

a. The assets divestiture to the proposed purchaser "...must not itself cause competitive harm" meaning that for instance in unilateral effects cases the divestiture to another large competitor in the market may not be acceptable, although divestiture to a fringe incumbent might.
b. the DOJ must be certain that the purchaser "...has the incentive to use the divestiture assets to compete in the relevant market".
c. the DOJ will perform a "fitness" test "...to ensure that the purchaser has sufficient acumen, experience, and financial capability to compete effectively in the market over the long term".

Competition authorities in the US and Europe finally approved three different buyers for the three refineries. Worsley Interest was finally sold to Billiton plc, which was the partner of Reynolds in the relevant joint venture, Corpus Christi Assets were sold to the US company BPU Reynolds, Inc. and the Stade's stake was sold to a European firm.

A first conclusion is that the previously maverick firm was split into three pieces and sold to three different buyers, which leads to the further conclusion that there was no direct replacement of Reynolds by a firm concentrating all Reynolds's assets. Whether the decision was correct or not it is difficult to say. However, if all Reynolds assets had been sold to a single buyer, the latter would have concentrated all resources that Reynolds had used pre-merger for becoming effective competitor.

Further, regarding the new owners in the two high-cost assets, it is difficult to see how these firms would be capable of competing aggressively, since these assets did not provide any competitive advantage to their owners. The only possible benefit from those acquisitions would be that the SGA produced in these assets would remain in the market thus preserving market balance.

Regarding Worsley, Reynolds's strategic asset, the approval of Billiton as a buyer is not certain that met the criteria set in the proposed Final Judgment for a suitable buyer. According to these criteria, the new owner should have been capable and have

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[373] Section IV(D).

the intention to compete effectively in the SGA market and in addition "none of the terms of any agreement between the purchaser or purchasers and [the merging parties], including any joint venture, governance, operation, or shareholders agreements, shall give [the merging parties] the ability to limit the purchaser's capacity or output, to raise a purchaser's costs, to lower a purchaser's efficiency, or otherwise to interfere in the ability of the purchaser or purchasers to compete effectively"[374]. It is also doubtful whether Billiton satisfied the three criteria for a suitable buyer referred to in the DOJ guidelines on merger remedies, particularly the second test.

Billiton was partner with Reynolds at Worsley and this might have constituted a sufficient reason for selling Reynolds's stake to that firm, since Billiton had experience in running this particular refinery. However, as shown in the previous chapter, Billiton was a partner of Alcoa in at least two refining joint ventures, in which Alcoa was holding controlling stakes[375]. The Final Judgment provided that in case of participation of the purchaser/s of divestiture assets in joint ventures with the merging firms, this participation should not restrict the purchaser's ability to compete. In the case of Billiton, it seems that Alcoa was capable of restricting the firm's ability to compete through the controlling stakes in the two joint ventures. It remains unclear thus far whether the US competition authorities by approving Billiton sought also to deprive Alcoa of its ability to restrict Billiton by imposing relevant terms to Alcoa. If they did not, then Billiton did not meet the requirements of the Final Judgment. If they did, then Billiton could potentially be deemed as a suitable buyer. However, it seems that Alcoa and Billiton continued, following the sale of Worsley, to have close relationship, since one year after the sale they agreed to merge their North American metal distribution businesses. This could potentially indicate that Billiton even if capable might not have the intention to compete effectively against Alcoa and the other oligopolists at least as Reynolds did.

5.4.8.3 Conclusion

From all the above it could be concluded that the effectiveness of the remedial decision of the DOJ was largely dependent on the identity of the purchaser of the

[374] Section IV(I) of the Final Judgment.

[375] These joint ventures included Sao Luis in Brazil and Paranam in Surinam (see table 7 in the previous chapter).

divestiture assets, particularly of Worsley. If the buyer of Worsley had sufficient intention to compete as effectively as Reynolds did, then the decision on the remedies would be rather successful, if not, then competition would be restored in terms of market shares, but not in qualitative terms. In the latter case the (already existent) risk of exercise of unilateral and multilateral market power would significantly increase post-merger. By choosing Billiton, Alcoa's partner, as a buyer for Worsley the DOJ took the risk that the concerns of coordination might not have been fully addressed, since the motive of Billiton to compete independently seemed questionable.

In terms of merger control, the analysis of the US decision further reinforces the argument developed by the thesis in the previous chapter that effective competition in anticompetitive mergers is not restored with the approval by competition authorities of the remedies proposed by the parties but with the implementation of the decision. Another conclusion is that remedies should seek to restore competition not only quantitatively through the divestiture of the overlapping capacity, but also qualitatively through the selection of an appropriate buyer for the divestiture assets capable of competing at least as competitively as the previous owner of these assets did.

Chapter 6

Alcoa/Reynolds merger: The market for primary aluminium

6.1 Introduction

Primary aluminium is the immediate downstream market of SGA. For that market neither the European Commission nor the DOJ found any anticompetitive effects in the merger of *Alcoa/Reynolds*. However, as will be shown below, the merger had significant impact on the market for primary aluminium by strengthening Alcoa's already leading position in that market. Alcoa's post-merger market share was low enough to fall below the minimum thresholds for merger review established under both the Merger Regulation and the 1992 US merger guidelines and this must have been a major reason for competition authorities in the two jurisdictions not to consider the primary aluminium market.

The analysis below examines the impact of *Alcoa/Reynolds* merger on the primary aluminium market and refers to both horizontal and vertical effects. Concerning the latter effects, the focus is on the possibility of Alcoa acting strategically to raise the costs of certain of its aluminium rivals, thus undermining their ability to compete. The analysis also examines the impact of these raising-rivals'-costs strategies on the prices of aluminium. Lastly, in the context of the analysis of these strategies the role of vertical analysis for assessing anticompetitive effects of mergers is also discussed.

The analysis of primary-aluminium is included in the thesis for several reasons. One basic reason is to explore the vertical effects of mergers and their treatment in merger control. Competition authorities generally do not pay so much attention to vertical aspects of mergers but focus instead on horizontal effects, which are more directly related to the exercise of market power. Moreover, vertical effects are generally considered as less harmful to competition because they enhance vertical integration, which is a basic source of efficiencies. However, as will be seen in the analysis newer economic theories of vertical foreclosure indicate that vertical mergers may result also in higher prices.

Therefore, a second reason for the inclusion of primary-aluminium into the thesis was to present these newer theories of incomplete foreclosure, mostly the raising-rivals'-costs theory, and discuss the utility of these theories for merger control. Given that these theories were formulated and tested by competition authorities first and foremost in the US, this thesis makes extensive references to the approach of the US competition authorities as well as to the Commission's approach.

Lastly, vertical mergers fall within the scope of EC merger control and as such fall also within the scope of this thesis, whose main objective is to assess the EC merger-control framework. Therefore, the inclusion of vertical mergers in the analysis helps to make this assessment more complete.

6.2 The relevant product and geographic markets

Primary aluminium is the pure metal produced through the electrolysis (smelting) of alumina[1]. Then, primary aluminium is subject to further processing for the production of aluminium products, which are used in numerous applications, such as in the automotive industry, in the aerospace industry, in packaging, and transportation. Given that it is the central and basic product of aluminium industry, its role is unique and there are no other materials that could be used as substitutes.

The Commission in several cases[2] has ruled that primary aluminium constitutes a relevant product market for purposes of merger analysis. It has based its decisions on arguments by customers that the metal has distinct characteristics, price and end use[3]. Also, the US courts[4] in the past have come to the same conclusion.

Regarding the relevant geographic market, the European Commission has defined it as worldwide[5] based on its uniform pricing, which is determined in the transactions of the London Metal Exchange (LME); of the fact that EEA is a net importer of the metal; and of the fact that Eastern European countries, particularly CIS, are major

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[1] The process is known as the Hall-Heroult process and is energy-intensive. See also in chapter 4.

[2] Case IV/M.675 *Alumix/Alcoa* [1995] (Decision of 21/12/95); Case IV/M.723 *Norsk Alcoa/Elkem* [1997] (Decision of 6/8/97); Case IV/M.1003 *Alcoa/Inespal* [1997] 5 CMLR 763; Case IV/M.1161 *Alcoa/Alumax* [1998] (Decision of 28/5/98)

[3] See e.g. decision on *Alcoa/Inespal ibid.*.

[4] *U.S. v Aluminium Co. of America* 247 F.Supp. 308, 1962; *U.S. v Aluminum Co. of America* 214 F.Supp. 501, 1963.

exporters of the metal[6]. In the US there is no recent decision on the issue but judging from the DOJ's ruling in SGA, it is most likely that the US authorities would equally consider the geographic market of primary aluminium as worldwide.

6.3 Competitive assessment

6.3.1 The market situation

Firms competing in the primary aluminium market[7] belong mainly to two categories: a) vertically-integrated producers such as Alcoa, Alcan and Pechiney; b) non-integrated (or independent) smelters, such as Hoogovens, Southwire and Dubal, who are dependent upon the merchant market for purchases of the raw materials, mostly smelter-grade alumina (SGA)[8]. Unlike vertically integrated ones, non-integrated firms smelters are subject to market risks associated with their dependence on third parties for alumina supplies. For this indispensable raw material, the analysis in previous chapters showed that supply is generally tight while SGA prices are very volatile, partly due to their dependence upon the volatile prices of primary aluminium and partly due to the tight SGA supply[9]. Independent smelters face also the problem that SGA deteriorates in storage, since it soaks up water, and therefore are unable to build up SGA inventories in periods of low SGA prices[10]. As a result, non-integrated smelters are dependent upon SGA suppliers, the most of which however are vertically integrated and compete against those smelters for market shares in the market for primary aluminium. Alcoa and Reynolds were amongst the vertically-integrated firms that were major primary aluminium producers and at the same time major sellers of SGA to non-integrated firms.

The prices[11] of primary aluminium are determined in the daily trading of LME. The key short-term price is the LME 3-month price for metal of 99.7% purity (the price today for metal to be delivered into LME warehouses in three months' time).

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[5]Case IV/M723 *Norsk Alcoa/Elkem* [1997] OJ; Case IV/M1003 *Alcoa/Inespal* [1997]; Case IV/M1161 *Alcoa/Alumax* [1998] (Decision of 28/5/98)
[6] See decision on *Alcoa/Inespal* at 6.
[7] More detailed information is included in the analysis of the SGA market in chapter 4.
[8] *Ibid.*
[9] *Ibid.*
[10] *Ibid.*
[11] Information obtained from James F. King, *Aluminium to 2015, the Looming Shortage,* Research Report, The Economist Intelligence Unit Ltd (Ed.), 1997, at 201-209.

The LME also quotes prices for metal for immediate delivery, the cash or settlement price.

The market situation in 1999 when the *Alcoa/Reynolds* deal was announced can be seen in table 1.

Table 1:Aluminium Production 1999 ('000 tonnes)

	Annual Capacity*	Primary Production
Alcoa	3,138	2,735
Alcan	1,661	1,490
Reynolds	1,118	1,065
Billiton	886	890
Pechiney	828	827
Hydro	745	749
Comalco	659	654
Aluminium Bahrain	537	515
CVG	520	482
Kaiser	510	413
VAW	421	421
Dubai	424	433
CIS countries*[1]		3,337
World total*[2]	21,822	20,655

Source: CRU International *Tonnes per year

*[1] 1998

*[2] Source: International Aluminium Institute

Alcoa was the market leader. Its total annual aluminium capacity after the acquisition of Reynolds would be approximately 4.256mt or 19.5% of the market. The market shares of the other firms were significantly lower. Alcan's share was 7.6%, Billiton's 4.1%, Pechiney's 3.9%, Hydro's 3.5% and Comalco's 3%.

Alcoa's post-merger market share would not be high enough to justify the establishment of unilateral market power under the Merger Regulation (ECMR) or to give rise to unilateral effects under the US 1992 horizontal merger guidelines. The ECMR[12] establishes a presumption of legality for mergers with market share less than 25% in the common market or in a substantial part of it[13]. However, in practice the

[12] Recital 32.
[13] Also para.18 of the Commission Guidelines on the assessment of horizontal mergers.

Commission establishes single dominance where the market share of the undertakings concerned is at least 40%[14].

In the US, the 1992 horizontal merger guidelines also establish a presumption of legality for mergers whose combined market shares are less than 35%[15], but this may not be the case when there is evidence that the merging firms are each other's closest competitor[16].

However, even if the rules establishing the above minimum thresholds are not mandatory in either the EU or the US, competition authorities in the two jurisdictions normally refrain from challenging mergers falling below these thresholds.

Regarding primary aluminium, the 19.5% market share of Alcoa post-merger was well below the above thresholds and this might have been one of the strongest arguments of competition authorities for not considering that market.

Another factor also indicating no threat to competition from *Alcoa/Reynolds* merger was the low post-merger level of concentration. A calculation of concentration using the information of table 1 resulted in a post-merger HHI below 1000, which according to the agencies' practice in both jurisdictions, is another minimum threshold of merger review below which mergers are unlikely to be challenged[17]. The low HHI level shows that risks of coordinated or unilateral effects were immaterial in the market of primary aluminium post-merger.

However, certain other features of the primary aluminium market and its relationship with the SGA market where the merged entity was the dominant firm, attracted the interest of this thesis, which carried out its own market investigation in order to find out whether *Alcoa/Reynolds* merger could nevertheless result in higher prices in the primary aluminium market. The results of this investigation are presented here.

First, primary aluminium, like SGA, is a homogeneous product market and for such markets, the level of production capacity of firms determines their competitive position[18]. In addition, and similarly to SGA, most aluminium firms, as will be

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[14] *Ibid* para.17.

[15] §§ 2.211, 2.22 of the guidelines.

[16] See also Robert H. Lande and James Langenfeld "From the Surrogates to Stories: The Evolution of Federal Merger Policy" 11-SPG *Antitrust*, 1997, 5, 7.

[17] See in §1.5 of the 1992 merger guidelines and para.19 of the Commission Guidelines on the assessment of horizontal mergers.

[18] For such markets the so-called Cournot model on oligopoly applies (see also Carl Shapiro "Theories of Oligopoly Behaviour" in Schmalensee and Willig (Eds.) *Handbook of Industrial Organisation*, Elsevier publ., 1989, 329, at 333-343).

explained below, were at the time of the *Alcoa/Reynolds* merger capacity-constrained with Alcoa possessing the largest part of the limited excess capacity. Alcoa could use this capacity to influence the market equilibrium for raising prices or to discipline capacity-constrained competitors or as a threat against entry[19]. Asymmetrical capacity constraints are generally considered by economic theory as harming tacit collusion but there are also cases where they increase collusion risk[20]. One such market was primary aluminium. However, as will be shown below, the aluminium market is less concentrated than that of SGA, and therefore collusion is more difficult. Therefore, firms seeking the establishment of collusion should also use the crucial upstream SGA market, where they have stronger presence, for achieving their purpose.

In other words, it is argued below that a combination of strategies in the SGA and aluminium markets could potentially enable Alcoa post-merger to raise aluminium prices either unilaterally or in coordination with other large players.

In more detail, Alcoa post-merger would have a 18.3% market share in terms of annual production and 19.5% in terms of annual capacity[21]. The firm's excess (or idle or overcapacity) capacity would be 456,000t or approximately 39% of the overall market[22]. Also according to table 1 above the overall excess capacity in the market was 1,167,000t, which was limited compared with the overall production capacity of 21,822,000t. According to available statistics, in the period of *Alcoa/Reynolds* merger the average rate of capacity utilisation in the industry was above 90% and was maybe reaching 95%[23]. This was so, because aluminium smelters, as with SGA, had to run in full capacity to be cost-efficient.

Alcoa's significant idle capacity, which was higher than the market average, had largely been created in the mid-1990s, following an agreement by major western aluminium producers to reduce their output in order to prevent prices from collapsing.

[19] The analysis of the SGA market in previous chapters examined in detail the use of excess capacity by firms possessing such capacity for raising prices or disciplining competitors.

[20] For economic studies suggesting that asymmetry in firms' capacities harms tacit collusion see Olivier Compte, Frederic Jenny and Patrick Rey "Capacity Constraints, Merger and Collusion", 46 *European Economic Review*, 2002, 1, 2-3). On the other hand, the European Commission in *Alcan/Alusuisse* (Case IV/M. 1663, Decision of 14/3/2000, para.76) proved that asymmetries in capacity could reinforce the potential of collusion.

[21] See table 1 above.

[22] From table 1, in 1999 the world annual production capacity was 21,822,000t, while the annual production 20,655,000t. From this, it follows that world excess capacity was (21,822,000-20,655,000=)1,167,000t of which (4,256,000-3,800,000=)456,000t or 39% were the combined Alcoa' s and Reynolds's share.

[23] According to a market expert, world-operating rates of aluminium capacity in 1999 and 2000 were 91.5% and 92.6% respectively (see Tsukasa Furukawa "Aluminium Supply, Demand Seen Rising" *American Metal Market*, Oct 15, 1999). In addition, a chart included in a market report of European Aluminium Association (update of October 2000) shows that the rate approached or exceeded 95% during 1999 and 2000, mostly due to the strong demand at the time.

The threat of price collapse came from countries of the former Eastern block, which had flooded western markets with East-made aluminium. The reductions finally reached 600,000t and Alcoa, as the market leader, took the largest share of them[24]. Following the merger with Reynolds Alcoa would have approximately 456,000t of excess aluminium capacity which constituted only 2% of the world overall capacity of 21,822,000t, but which was nevertheless competitively important. This was because aluminium prices are generally very sensitive to changes in the market equilibrium and therefore little changes in the equilibrium could affect prices. Thus, Alcoa could use these 456,000t to alter the equilibrium and thus prices.

Table 2 below, demonstrates the relationship between the market supply/demand balance and the average annual aluminium prices:

Table 2: The aluminium market: Supply/demand balance and 3-month LME prices.

Year	*Supply/demand balance** Surplus (+), deficit (-), (million tonnes)	*LME 3-month prices* (1) year average (US$/t)
1994	-0.90	1,502
1995	-0.80	1,831
1996	+0.30	1,534
1997	+0.26	1,618
1998	+0.63	1,378
1999	+0.08	1,388
2000	-0.08	1,566

*Source: Purchasing, February 10, 2000.
(1) Source: American Metal Market, December 7, 2001.

Table 2 shows that changes in the market equilibrium by less than a million tonnes could cause relatively big changes in metal prices. For instance, in 2000 the market had a deficit of only 80,000t down 160,000t from a surplus of 80,000t a year earlier, but the average prices were significantly higher than in 1999. The situation would have been even clearer if year lows and highs had also been included in table 2. In such a case it would have been seen that aluminium prices are extremely volatile. For example in 1994, when the market had a deficit of 900,000t, the year low was

[24] About the events of the mid-1990s and their market impact in the subsequent years see also "New aluminium output will dampen price increases", *Purchasing*, July 15, 1999; also Bob Regan "Wide consensus marks LME aluminium prices, volume", *American Metal Market*, October 11, 1999.

US$1,128/t and the high US$1,999/t[25]. In 1998 a year of 630,000t oversupply, the price low and high were US$1,055/t and US$1,538/t respectively.

The analysis therefore shows that even a small shift in supply/demand balance would directly affect aluminium prices, while Alcoa, by controlling approximately 3,800,000t of primary production and another 456,000t of idle capacity, was potentially capable of affecting the market equilibrium and thus of raising prices.

However, a policy to raise prices, following the merger with Reynolds, would be more effective if Alcoa's aluminium position was combined with the firm's dominant position in the SGA market, the crucial raw material. In that case Alcoa could potentially exercise what is called raising-rivals'-costs strategies against certain weak aluminium rivals, which could also result directly or indirectly in higher aluminium prices. The analysis below explains the theoretical foundations of raising-rivals' costs, and their role in merger analysis, and explores how such strategies could be used by Alcoa to raise aluminium prices.

6.3.2 Raising rivals' costs

6.3.2.1 Raising-rivals'-costs theories in antitrust and merger analysis

Raising-rivals'-costs ("RRC") are economic theories dealing with the foreclosure of rivals and stand for some non-price predatory conduct aimed at raising competitors' costs[26]. The traditional predatory behaviour provides that a predator reduces the victim's revenues to unprofitable levels by price cuts thus forcing the victim to exit. In contrast, a RRC strategy seeks to increase the victim's costs by, for instance, raising the price of some scarce critical input needed by the victim, causing the victim to reduce its output in the benefit of the predator[27]. Two basic advantages of RRC over traditional predation are that RRC does not require rivals' exit to be profitable and that there is no need for sacrificing profits in the short-run, since the strategy allows profits to be increased immediately[28]. In addition, unlike predatory

[25] Source: *Purchasing.*
[26] See Steven C. Salop and David T. Scheffman "Raising Rivals' Costs" 73 *Am.Ec.Rev.* 1983, 267, 267.
[27] See David T. Scheffman "The Application of Raising Rivals' Costs Theory to Antitrust" *Antitrust Bull.*, 1992, 187, 188-189.
[28] See Salop and Scheffman *op.cit.*26; also Timothy J. Brennan "Understanding 'Raising Rivals' Costs'" *Antitrust Bull.* 1988, 95.

pricing, cost-increasing strategies can often be made irreversible, and thus more credible[29].

RRC theory, one of the achievements of the post-Chicago School of antitrust analysis[30], contains various market models and strategies[31]. In competition terms, the RRC effects appear ambiguous, because they are not always anticompetitive: the fact that higher costs harm the predator's rivals is not anticompetitive in itself, unless the harm is associated with price rises at supra-competitive levels[32]. It has also been shown that in reality in concentrated industries much of "competition on the merits" involves strategies and tactics disadvantaging rivals without this being anticompetitive[33]. This gives rise to another practical problem, which remains largely unsolved: how to distinguish between pro-competitive and anti-competitive strategies[34].

Although RRC economists in the US have used in the past mainly monopolisation cases as an empirical support[35], these cases were rejected by other economists on the basis of additional facts or different interpretation of the facts[36]. As a result, although everyone seems in principle to accept that RRC strategies are feasible, it has nevertheless been argued that for any viable antitrust case based on RRC, proof of credible and not merely feasible anticompetitive effects must be required[37].

Regarding mergers, the original RRC theory suggests that a merger leading to vertical integration may result in anticompetitive effects when one of the merging

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[29] See Salop and Scheffman *op.cit.*26, 267.
[30] See Herbert Hovenkamp "Post-Chicago Antitrust: A review and Critique", *Colum.Bus.L.Rev.* 2001, 257, 318-323.
[31] See e.g. Steven C. Salop and David Scheffman "Cost-Raising Strategies" 36 *Journal of Industrial Economics*, 1987, 19; Janusz Ordover and Garth Saloner "Predation, Monopolisation and Antitrust" in *Handbook of Industrial Organisation*, Richard Schmalensee & Robert Willig eds.,1989, 537-596; Thomas G. Krattenmaker and Steven C. Salop "Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price" 96 *Yale L.J.*, 1986, 209.
[32] See Karattenmaker and Salop *ibid.*, at 242.
[33] See David T. Scheffman and Richard Higgins "20 Years of Raising Rivals' Costs: History, Assessment and Future", FTC, 2003, at p. 6, citing also Charles Holt and David Scheffman "Strategic Business Behaviour and Antitrust" in *Economics and Antitrust Policy*, P. Larner and J. Meehan (Eds), Quorum Books, 1989, 39-82.
[34] See Scheffman and Higgins *ibid*; also Holt and Scheffman *ibid.*
[35] See Krattenmaker and Salop *op.cit.*31.
[36] See Timothy Muris "The FTC and the Law of Monopolisation" 67 *Antitrust L.J.*, 2000, 693, 712-715; also Scheffman and Higgins *op.cit.*33; also Malcolm B. Coate and Andrew M. Kleit "Exclusion, Collusion or Confusion? The Underpinnings of Raising Rivals' Costs" 16 *Res.L.&Econ.*, 1994, 73; Hovenkamp *op.cit.*30. According to the influential US judge Easterbrook who does not favour RRC, arguments promoted during the 1990s for anticompetitive behaviour based on RRC in the US telecommunication sector, were not justified by the subsequent developments in the sector where, instead of higher costs and prices and exit of rivals, the sector demonstrated falling prices, and considerable entry and expansion of both infrastructure and sales (see Frank H Easterbrook "When is Worthwhile to Use the Courts to Search for Exclusionary Conduct?" *Colum.Bus.L.Rev.* 2003, 345, at 356-358).
[37] See Scheffman and Higgins *op.cit.*33, 12; also, Muris *ibid.* 715.

firms possesses market power in at least one of the vertically-related markets (either upstream or downstream). In such a case, the merger may lead to anticompetitive price increases or rivals' foreclosure in the other market[38]. Newer RRC literature has gone beyond that point by suggesting that anticompetitive effects may arise even if the merging firms do not have market power at any level[39].

However, in respect of vertical mergers, the RRC needs to be balanced against efficiencies. Vertical mergers are generally considered as more likely to produce efficiencies than horizontal mergers and an example of such efficiencies is the elimination of "double-marginalisation". Double-marginalisation occurs when one firm with market power sells to a second firm with market power and each sets its optimal monopoly price independently. This results in higher prices and lower output than when a single monopolist controls both distribution levels[40]. In general, the greater the monopoly position of the vertically related firm, the greater the efficiency gains from the elimination of double marginalisation[41]. However, vertical integration may result also in anticompetitive RRC effects, in which case there is need to balance these effects against efficiencies[42]. Such balancing, though, may finally favour efficiencies, which are easier to prove[43].

Additional problems may arise also in the process of proving the existence of RRC, which may finally render unnecessary the balancing of RRC against efficiencies[44]. For instance, there may be in existence in the market disruptive factors capable of cancelling an otherwise feasible RRC policy. Such factors could include, amongst others, the ability of targeted rivals to respond, the ability of un-excluded rivals to act effectively against the merging firms, easy market entry, and lack of sufficient incentive by the merging parties themselves to apply an RRC policy post-merger. In particular, targeted rivals may be able to respond, for instance, by locating

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[38] See Scheffman and Higgins *ibid.*, 20.
[39] See *ibid.*, 21.
[40] For a formal presentation of the competitive effects of double marginalisation see Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, Sweet & Maxwell, 2002, at 5.37-5.40.
[41] See also Hovenkamp *op.cit.*30, 325-326; also Michael Riordan and Steven Salop "Evaluating Vertical Mergers: A Post Chicago Approach" 63 *Antitrust L.J.*, 1995, 513, 526-527.
[42] See also Hovenkamp *ibid.*; also Riordan and Salop *ibid.* However, opponents of RRC have suggested that purely balancing anticompetitive effects against efficiencies in vertical mergers is an error because in such mergers efficiency benefits are largest precisely when the risk of competitive harm is the greatest and that the most likely outcome in these cases is lower rather than higher prices (see David Reiffen and Michael Vita "Comment: Is There New Thinking on Vertical Mergers?" 63 *Antitrust L.J.* 1995, 917, 920-921; for a response to these views see Michael H. Riordan and Steven C. Salop "Evaluating Vertical Mergers: Reply to Reiffen and Vita Comment" 63 *Antitrust L.J.*, 1995, 943).
[43] See Hovenkamp *ibid.*
[44] See Riordan and Salop, *op.cit.*42, 945.

alternative suppliers or products[45], while regarding un-excluded rivals they may be able, particularly when they are vertically integrated, to cancel the effects of RRC by supplying disadvantaged rivals in competitive prices, thus preventing cost increases in the latter[46]. In the same way easy entry could cancel the anticompetitive effects of RRC, while about the merging parties, it has been argued that the merger must be sufficient to alter their motives in favour of anticompetitive RRC strategies and that it is not enough that the merger merely creates favourable market conditions for the exercise of these strategies[47].

The biggest contribution of RRC theories to antitrust and particularly to merger analysis is that they improved foreclosure analysis, by shifting the interest from the extreme situation of rivals' destruction, which was the source of concern in the traditional foreclosure literature, to competitive harm caused by disadvantaging rivals without forcing them to exit, which is a more realistic scenario[48]. However, RRC analysis is more complex than that of the traditional foreclosure and there is particular difficulty in proving how by disadvantaging certain rivals consumers will be harmed through higher market prices. This practical difficulty in distinguishing between pro-competitive and anti-competitive strategies makes competition authorities and courts in the US hesitant in accepting theories of competitive harm based on RRC[49]. Particularly regarding vertical mergers, for which some RRC economists suggested the establishment of an analytical methodology based on such theories analogue to the horizontal guidelines[50], additional problems arise concerning the issue of balancing RRC against efficiencies and the establishment of credible anticompetitive effects, as a result of the merger. Thus, taking into account those mentioned above, for a vertical merger (or a merger giving rise to vertical effects) to result in anticompetitive effects based on RRC, one must prove that the merger will create sufficient capabilities and incentives to the merging parties to exercise credible RRC; that the policy will result

[45] See Krattenmaker and Salop, *op.cit.*31, 268-272.
[46] See *ibid.* at 243.
[47] See Scheffman and Higgins *op.cit.*33, 22.
[48] See also Hovenkamp *op.cit.*30, 318-326.
[49] In US where the issue of RRC was debated more than in Europe, the influential US judge Easterbrook *op.cit.*36 at 357, held: "My recommendation is that for the foreseeable future we leave raising rivals' costs to the academy". Similarly, Hovenkamp *op.cit.*30 at 326 stressed: "...post-Chicago theories of vertical mergers are not fundamentally irrational or absolutely incapable for administration...But they may not be quite ready for prime time either". Even Scheffman, a proponent of RRC, has recognised that "[w]hat is needed...for non-price predation and vertical mergers specifically, is much more empirical research that can help us distinguish anticompetitive conduct from conduct that is benign or pro-competitive" (see Scheffman and Higgins *op.cit.*33, at 30).
[50] See Riordan and Salop *op.cit.*41; for a critic of their views Reiffen and Vita *op.cit.*42.

apart from disadvantaging rivals also in higher market prices; and that neither disruptive market factors nor efficiencies are sufficient to reverse the anticompetitive effects. The burden of proof, as can be seen, is high and rests with competition authorities, which in such a case, lack also sufficient support by economic theory which still evolves and as shown has not come out with concrete results yet.

However, to apply RRC theories in the context of merger control one should necessarily take into account the legal framework in the EU and the US. In the EU, vertical mergers and vertical aspects of mergers are examined in terms of the substantive test of the ECMR. Under the old dominance test, a vertical merger to be anticompetitive was required to give rise to a dominant position, while under the new test, where the focus is on substantial impediment to effective competition, which has broader scope the situation will change because for competitive harm situations of non-collusive oligopolies will also be covered. However, the Commission has not issued yet guidelines on the assessment of vertical mergers and therefore it has still to be seen how vertical mergers will be dealt with under the new test. However, the Commission's traditional approach, which should not be expected to change significantly in the future, is that vertical effects of mergers are examined when the merging parties possess market power in one of the vertically related markets[51], while the key concerns in such cases include foreclosure effects and facilitation of collusion[52].

Moreover, the Commission is concerned with the position of rivals post-merger and therefore has often demonstrated a hostile attitude against efficiencies caused by vertical integration, which were considered as factors facilitating market dominance[53]. The Commission's theory of competitive harm in such cases is based on the assumption that rival firms will be unable to compete and, as a result, will be forced to exit the market and thereafter the vertically integrated firm will be able to increase prices[54]. Thus, one could assume that the Commission could be receptive to RRC

[51] See e.g. the Commission's decision in *Skanska/Scancem* (Case IV/M.1157 (1998);[1999] OJ L 183/1; [2000] 5 CMLR 686) which referred to the acquisition by Skanska, the largest construction company in Sweden, of Scancem, which was controlling 90% share of the market for the supply of cement in the same country. The Commission declared the acquisition incompatible with the common market and forced Skanska to divest its already acquired shareholding in Scancem. See also Giuseppe B. Abbamonte and Valerie Rabassa "Foreclosure and Vertical Mergers-The Commission's Review of Vertical Mergers in the Last Wave of Media and Internet Mergers: AOL/Time Warner, Vivendi/Seagram, MCI Worldcom/Sprint" 22 *E.C.L.Rev.* 2001, 214, 226.
[52] See also Alison Jones and Brenda Sufrin, *EC Competition Law*, (2[nd] Ed.) Oxford University Press, 2004, 961.
[53] See Bishop and Walker *op.cit.*40, 7.62.
[54] See *ibid.*

theories of vertical foreclosure, particularly when disadvantaged rivals were likely to exit the market.

One merger case, in which the Commission's views on foreclosure and RRC were presented, was *Telia/Sonera*[55]. In the assessment of foreclosure, the Commission said[56]: "In assessing whether the foreclosure problem is significant, it is necessary to establish not only that the merged entity will have the *incentive* to foreclose, but also whether it has the *ability* to do so, and whether it will have *any significant effect* on competition on the market in question..." Regarding RRC, the view was that "[i]f the foreclosure can raise competitors' costs, it can either provide a disciplining force that would make the competitor less inclined to compete aggressively, or in the worst case, it could increase the likelihood of exit". However, in *Newscorp/Telepiu*[57] the Commission made clear that foreclosure and RRC "are not considered in isolation...but they must be seen in the perspective of the overall anti-competitive effects brought about by the transaction".

On the other hand, in the US, vertical mergers and vertical aspects of mergers are subject to the analytical framework of the 1984 Merger Guidelines, which were published by the Department of Justice and apply to all "non-horizontal" mergers. These guidelines establish three risks to competition from vertical mergers: increased barriers to entry, facilitation of collusion, and avoidance of rate regulation.

Regarding barriers to entry, the guidelines set forth three necessary but not sufficient conditions for vertical mergers to raise competitive problems. First, the vertical integration resulted from the merger must be so extensive as to require simultaneous entry in both markets[58]. Second, following the merger the requirement of entry in the "secondary" market must make entry in the "primary" market significantly more difficult and less likely to occur. Third, the structure and other characteristics of the primary market must be otherwise so conducive to non-competitive performance that the increased difficulty of entry is likely to affect its performance.

Regarding collusion, according to the guidelines vertical mergers may facilitate horizontal collusion by removing obstacles to effective coordination[59]. This could

[55] Case IV/M.2803, Decision of 10/7/2002
[56] *Ibid.*, at para.91.
[57] Case COMP/M.2876, Decision of 2/4/2003, at para.131.
[58] See § 4.21 of the guidelines.
[59] § 4.22.

happen in two instances: when the integration of upstream firms to the retail level facilitates monitoring of prices, and when the merger eliminates a disruptive buyer[60].

Lastly, the third competitive risk with however little practical importance is that referring to the case where vertical mergers allow price-regulated utilities to circumvent rate regulation by inflating the costs of internal transactions with the unregulated subsidiary[61].

The 1984 merger guidelines, initially found little application, since the prevalent view between competition agencies at that time was to favour vertical mergers as efficiency-enhancing and therefore very few such mergers were challenged[62]. Moreover, the "theories" proposed in these guidelines were not used by courts and were not well developed in academic literature[63]. At the time, the fundamental Chicago-school insight that vertical mergers are problematic only to the extent that they have an effect on competition at a horizontal level, which could be assessed through horizontal analysis[64], was widely accepted. However, the rise of the post-Chicago school of thought caused certain changes in the approach of the US competition agencies, which led in the 1990s to increased interest on vertical issues relating to mergers. Thus, the US agencies, without changing their preference for horizontal analysis, focused more on vertical relationships and their ability in certain circumstances to harm horizontal competition by foreclosing rivals without forcing them to exit[65]. This shift in policy, with the adoption of newer theories not available under the framework of 1984 guidelines, did not lead to changes in these guidelines, but had nevertheless significant practical impact on the negotiations between the agencies and the merging parties on the competitive effects of the merger and the subsequent settlement[66]. However, although the new policy shows that competition authorities are willing to accept RRC theories, if they can be proved[67], the latter have

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[60] *Ibid.*
[61] § 4.23.
[62] See also Herbert Hovenkamp *Federal Antitrust Policy: The Law of Competition and Its Practice*, West Group, 1999, 348-349.
[63] *Ibid.*
[64] See also Thomas Leary "The Essential Stability of Merger Policy in the United States" 70 *Antitrust L.J.* 2002, 105, 129.
[65] Some of the highest profile cases which were examined by US competition authorities in this context during the 1990s, included mergers of the telecommunication, computer, healthcare and defence industries (see also M. Howard Morse "Vertical Mergers: Recent Learning" 53 *Bus. Law.* 1998, 1217).
[66] See also Leary *op.cit.*64, 129-130; Morse *ibid.* at 1217.
[67] See also Frederick R. Warren-Boulton "The Contribution of the Merger Guidelines to the Analysis of Non-Horizontal Mergers" available at www.usdoj.gov/atr/hmerger/11709.pdf

not yet been tested at the judicial level and the various problems in their application have deterred thus far their incorporation into the guidelines[68].

6.3.2.2 Raising-rivals'-costs strategies and primary aluminium

Alcoa/Reynolds was not a vertical merger since both firms were fully integrated. As a result, the merger produced largely horizontal effects in the markets of SGA and primary aluminium. However, the strengthening of Alcoa's position in both those vertically-related markets as a result of the merger unavoidably produced also certain vertical effects, one of which concerned the potential ability of Alcoa to raise the costs of its non-integrated aluminium competitors by combining its dominant position in the upstream market of SGA and its large idle aluminium capacity downstream. Let us examine the issue in more detail.

First, according to those mentioned above, for a viable theory of anticompetitive effects based on RRC at least the following should be proved: **a)** the merger creates sufficient incentives and capabilities to the parties to put forward credible RRC strategies to undermine the competitive positions of certain rivals or force them to exit; **b)** the RRC cannot be cancelled by the targeted rivals or other disruptive market forces or new entry; **c)** the RRC strategies will also unavoidably lead to higher prices thus harming competition; and **d)** the merger will not produce efficiencies sufficient to counterbalance the competitive harm.

From the above conditions the issue of efficiencies in *Alcoa/Reynolds* did not arise, because the merger would not create significant efficiencies[69]. This might have been expected because the two firms were already vertically integrated and therefore a large part of economies would come from the reduction in administrative costs. Thus, there is no need in this case to balance efficiencies against the anticompetitive effects from possible RRCs.

Regarding the other conditions, their existence in aluminium should be examined within the context of possible RRC strategies, which could apply in the aluminium market as a result of *Alcoa/Reynolds* merger. It seems that at least two such strategies were possible: one pursuing higher aluminium prices through raising the costs of independent aluminium producers, for which strategy Alcoa's dominant position in

[68] See also Leary *op.cit.*64, and the analysis of RRC theories above.
[69] See the analysis about the SGA market in the previous chapters.

the SGA market would be the main tool; and one pursuing the exit of independent rivals or alternatively the reinforcement of coordination between all firms in the aluminium market, for which a combined use of the upstream dominant position of Alcoa with the firm's downstream idle capacity would be required. In the second case, the outcome would also be higher aluminium prices.

6.3.2.2.1 The first RRC strategy

First, Alcoa by dominating the upstream SGA market, the critical raw material for aluminium, would be capable of restricting SGA output thus increasing SGA prices. As shown in the previous chapters, competition authorities in the EU and the US, which reviewed the merger considered that such a policy would be successful because most of Alcoa's SGA competitors were capacity-constrained and therefore would be unable to eliminate the created supply deficit, whilst Alcoa was capable, by using its expansion opportunities, to prevent any competitors' attempt to expand their production. It was also shown that new entry was unlikely to prevent price rises due to the high sunk costs and lead-time required for the construction of new refineries, whereas Alcoa was able to raise additional entry barriers. Lastly, as both the EU and US competition authorities stressed in their analyses SGA buyers, namely independent aluminium smelters, would suffer from higher prices because they would be unable to find SGA substitutes. Thus, buyers would have to either accept price increases or close down.

The competition authorities also referred to a real market event, the explosion in Kaiser's Gramercy refinery, which reduced SGA supply by approximately 1mt or 7% of the merchant market (or 2% of the world capacity) in 1999. The relatively small supply deficit created due to the explosion affected significantly SGA prices, which went up by multiple of that percentage point.

However, the European Commission in its decision[70] considered that buyers were not extremely sensitive to SGA, since the latter represented only 25% of a smelter's overall costs, and therefore a permanent price increase of 10% in SGA would result in a total cost increase of only 2.5%, which was deemed unlikely to drive smelters out of business.

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[70] See paras. 22-23 of the decision.

Thus, from the above references, it could be inferred that both competition authorities and particularly the European Commission accepted that Alcoa post-merger would have the ability to raise SGA prices, which in turn would increase the costs of independent smelters, but considered the cost increase insufficient to drive the latter out of the market and thus to pave the way for higher prices also downstream. Using RRC terms, it could be said that, according to the agencies, *Alcoa post-merger by using its upstream dominant position could apply feasible RRC policy against downstream rivals, but such a policy would not harm competition because aluminium prices would not rise as a result, since disadvantaged rivals would not leave the market.*

However, as shown in chapter 4 by this thesis, which used available market evidence, the Commission's argument that buyers were not sensitive to alumina prices might not have been completely correct because the prices of SGA and aluminium are generally very volatile and the volatility range often exceeds by far the 10% level used by the Commission for studying the reaction of buyers[71]. Moreover, this thesis in chapter 4 showed also that other components of smelters' costs, mostly energy, were also volatile and the same happened with the smelters' profit margins[72]. Thus, for all the above reasons the thesis concluded that the Commission's use of a 10% level of price increase for studying the reaction of rivals was not very appropriate and that in reality smelters were sensitive to changes in SGA prices. Thus, under certain realistic market conditions higher SGA prices could seriously harm certain smelters thus driving them out of the market.

Using these findings to adjust the above conclusion of competition authorities we could restate that conclusion as follows: *Alcoa by dominating the SGA market post-merger would be capable of **significantly** increasing prices, thus causing **significant** cost rises to SGA buyers, which were at the same time Alcoa's rivals in the aluminium market.* The fact that disadvantaged downstream rivals would not be forced to exit, which was mentioned by the Commission, is not essential requirement for RRC.

Further, another argument of the agencies was that aluminium producers facing higher SGA prices would either accept these prices or close down because they would

[71] The thesis analysing the market impact from Gramercy showed that SGA prices in certain, not rare, cases could increase by 50%, 100% or even more.

[72] Aluminium prices, generally, make cyclical movements and according to a market expert whose views were cited by the thesis in chapter 4, there are periods where these prices fall temporarily (as a year average) to 15% below the level at which the operating costs of 75% of the industry's capacity are covered.

be unable to find SGA substitutes. However, this argument seemed to ignore the potential of the producers to pass the price increases further downstream, thus avoiding to incur themselves the extra SGA costs.

The thesis in chapter 4, analysing the market impact of Gramercy explosion, showed that after the explosion aluminium prices rose together with the SGA prices[73]. It was also shown that the increase in metal prices very likely covered all or at least the largest part of the extra cost caused to smelters by the higher SGA prices. As a result, independent aluminium smelters did not suffer from the higher SGA costs.

Concerning RRC, the situation after Gramercy proved that an increase in aluminium costs results in higher prices of the metal. Thus, Alcoa by being able post-merger to raise aluminium costs would be capable also of raising aluminium prices, hence producing the anticompetitive effects proposed by RRC theory[74].

The European Commission in its decision also recognised such a potential, namely higher aluminium prices, but the latter interpreted the market consequences from higher aluminium prices differently. The Commission said:

"Any increase in the price of smelter grade alumina will raise the costs of [the parties'] rivals, which are not vertically integrated, [in the aluminium smelting business]. Even if prices of aluminium were to go up as well, as a consequence of a tight alumina market, total profits of integrated companies, such as the merging entity, would be higher relative to non-integrated aluminium companies conveying a competitive advantage to integrated companies. In other words, if higher alumina prices result in higher aluminium prices, this would be relatively more advantageous for integrated companies such as the parties"[75].

Thus, the Commission accepted that higher SGA prices could also raise aluminium prices, but it preferred to focus on the impact of such a move on the aluminium firms' profits where it found that vertically integrated firms, such as Alcoa, would realise more profits than independent smelters thus acquiring a competitive advantage. However, from a consumer viewpoint the finding of higher aluminium prices was more important, since it proved the passing of upstream price-rises downstream, thus increasing the risk of harm to final consumers.

[73] Although SGA prices are generally tied to the prices of the metal and are therefore affected by the demand for the latter, in the case of Gramercy it was SGA, which affected aluminium prices. See also "Rise in Raw Material Costs is Inflating Aluminium Ingot" *Purchasing*, 10 February 2000

[74] As shown above RRC is only anticompetitive if it can result in higher price. Merely raising some rivals' costs does not suffice.

[75] Para.28 of the decision.

Aluminium price-rises, as those after Gramercy, could occur also in other cases, this time after the execution of a relevant plan by aluminium companies. This was implicitly recognised also by both the EU and US competition authorities in their decisions concerning SGA. The US DOJ, in its analysis stressed that apart from Alcoa's ability to raise SGA prices unilaterally post-merger, the market would also face increased risk of anticompetitive coordination, while according to a DOJ official, the market was experiencing a history of coordination and price signalling[76]. Similarly, the Commission in its decision, when examining capacity expansions in the SGA market, stressed that the expansions projected for the future were carried out by integrated firms to satisfy increased internal needs and that integrated firms were sharing with the parties the incentive to increase SGA prices in order to "...increase the cost of their rivals, which [were] not vertically integrated"[77]. Also, as shown above, the Commission accepted that higher SGA prices could result in higher metal prices, which would mean extra profits for vertically integrated firms. As a result, both DOJ and the Commission in their decisions either expressly or implicitly referred to the potential SGA price increases to be transferred also to the aluminium market.

Further, the conditions in the aluminium market were largely similar to those in the SGA market. First, features, such as predictable demand and supply, market transparency, capacity-constrained competitors and product homogeneity, which existed in the SGA market, existed also in primary aluminium. Second, the same players that controlled the largest part of the SGA production had a major presence also in the aluminium market[78]. According to the Commission's information, two-thirds of the world SGA production was in 2000 used internally by integrated firms, such as Alcoa and Alcan, which in reality meant that two-thirds of aluminium production was also produced by these firms. Given that integrated firms were interested in higher SGA prices, it is reasonable to assume that they were interested also in higher aluminium prices, which would mean extra profits for them. Thus, they would be willing to help Alcoa to raise apart from SGA prices also aluminium prices either through coordination with the firm or implicitly through not taking action to stop aluminium prices from rising by Alcoa's action. Third, independent smelters

[76] For more details on the issue of coordination in the SGA market see the analysis of coordinated effects in chapter 5.
[77] See para.37 of the decision.
[78] At the time of the merger, Alcoa, Reynolds, Alcan and Pechiney were major SGA and aluminium producers, even if the two latter were not selling in the SGA market but were using all their SGA production internally.

would be most interested to cooperate in passing the higher SGA prices further downstream, because otherwise they would suffer from higher costs[79]. If one adds the situation of capacity constraints that the most aluminium producers were facing at the time of the merger, it seems reasonable to conclude that Alcoa's ability to raise SGA prices, could result in addition to higher aluminium prices also in increased risk of coordination in that market.

Alcoa would not be required to have significant market power also in the market of aluminium for its RRC policy to be effective. It would be sufficient for the firm to put pressure on or provide sufficient incentive to the disadvantaged downstream rivals to carry out the increases themselves either unilaterally or in coordination with vertically integrated firms. The result would be harmful for consumers, because prices would be higher[80].

As a conclusion, under the above-described RRC strategy Alcoa would be capable post-merger to use its dominant market position in the SGA market to raise prices there, and then using its strong aluminium position and also the potential willingness of it aluminium rivals for help, to raise unilaterally or in coordination aluminium prices.

6.3.2.2.2 The second RRC strategy

The second RRC strategy would target independent smelters and certain capacity-constrained vertically integrated firms. Under the relevant market scenario, Alcoa, acting either unilaterally or in coordination with other vertically-integrated firms, would prevent higher SGA prices to be passed onto aluminium prices. Independent smelters would suffer from the higher costs because they would not be able to pass these costs onto their own customers. The strategy could also affect certain vertically-integrated firms, particularly those capacity-constrained and with relatively high production costs, by squeezing their profit margins even if the squeeze would be less painful than that for independent smelters. The final outcome of this strategy would be to undermine the ability of independent smelters and certain vertically-integrated firms to compete and maybe to force some of them to exit. However, the most likely

[79] The participation of independent smelters in the coordinated policies could be even involuntary, namely forced by their higher costs (see also Riordan and Salop *op.cit.*41, 528).
[80] See also Riordan and Salop *ibid.*

result would be the reinforcement of coordination between independent smelters and vertically integrated firms, which could translate into higher prices.

For such a strategy to be effective, the use of Alcoa's idle aluminium capacity would be required. As shown above, Alcoa had 456,000t of idle aluminium capacity, which could be restarted combined with the imposition by the firm of restrictions in SGA supplies. The reduced SGA supplies would increase SGA prices, but the increase at the same time of aluminium production would help preventing the higher SGA prices to be passed to aluminium. Thus, independent smelters would be trapped between higher costs and stable or maybe lower aluminium prices, while in case of lower aluminium prices, vertically integrated firms, particularly the high-cost ones could be harmed as well. The profit squeeze would undermine the ability of disadvantaged aluminium producers to compete and if this could force some of these producers to exit.

In more detail, the market scenario could unfold as follows: by restarting 456,000t of aluminium Alcoa would withdraw 900,000t of SGA from the merchant SGA market to use them as raw materials for the restarted production. These 900,000t constitute SGA production almost equivalent to the 1mt lost in Gramercy, which caused huge increases in SGA prices. Then, while higher SGA prices would press aluminium prices upwards, the new aluminium production would prevent aluminium prices from rising.

The above-described scenario was partly confirmed by real market conditions. On January 2000, six months after the Gramercy explosion, Alcoa announced its decision to restart 200,000t of its idle smelting capacity[81]. At that time the spot SGA prices were at US$370/t up from less than US$160/t prior to the explosion, while the 3-month LME aluminium prices had risen from US$1400/t to US$1740/t. Four months after Alcoa's announcement SGA prices rose further by around 15% to US$425/t, while the aluminium prices immediately after the announcement fell by approximately 10% to US$1530/t and stayed there for a few months. The situation was reversed later in the year when SGA prices fell to US$250/t in August 2000, while the prices of the metal rose[82].

[81] See also, Bob Regan "Alcoa's Plan to Bring Idle Capacity Back Comes as Surprise", *American Metal Market*, Jan 21, 2000.

[82] Information about the prices of SGA and aluminium for the above period was collected from various market sources including price reports of London Metal Exchange, the 1999-2000 Statistics Digest of the Department of Minerals and Energy of Western Australia, the *American Metal Market* and the *Purchasing* (the last two journals specialise on issues related to the markets of metals).

Thus, the initial market reaction to Alcoa's announcement confirmed the viability of the above-described strategy that a restart of aluminium idle capacity could drop aluminium prices but at the same time raise SGA prices, thus squeezing the profit margins of independent smelters. The fact that in the above case this situation lasted only for a few months and was reversed later does not prove against the sustainability of the strategy, because the reversal occurred for reasons related to the specific market momentum, which therefore could not be generalised. More specifically, SGA prices fell from US$425/t, four months after Alcoa's announcement, to US$250/t, seven months after that, due to the completion in May 2000 of two long-announced capacity expansions at Reynolds's Worsley[83] and Alcoa's Wagerup[84] refineries, and also because SGA prices at US$425/t were already at extraordinary levels. Also, the fact that aluminium price rose again later in 2000 was due to the increased demand for the metal worldwide, which was fuelled by the favourable developments in the global economy at that time[85].

It should be also noted that Alcoa announced the restart of only half of its idle capacity, while SGA and aluminium prices reacted to the announcement even if they were already at high levels. Thus, one could imagine what would have happened under more favourable market conditions for Alcoa. For instance, if Alcoa had announced the restart of all (and not half) of its idle capacity in periods of relatively low demand for aluminium, the prices of the latter would have fallen by much more, while SGA prices would have risen potentially by more than the 15% mentioned above and apparently for a longer period. The profit squeeze for disadvantaged smelters would have been more painful then.

However, concerning Alcoa's announcement, it should be mentioned that the EU competition authorities were at the time of the announcement reviewing *Alcoa/Reynolds* merger and the Commission came to a final decision, following a phase-II investigation, on the 3rd of May 2000. Similarly, on the same day, the US competition authorities finished their own market investigation by filing the Complaint and the proposed settlement of the case. Thus, both competition authorities

[83] On May 2000 Worsley completed the final stage of an expansion project that increased production by 1.3mt annually (See *1999-2000 Statistics Digest*, Department of Minerals and Energy of Western Australia)
[84] Alcoa's 440,000t capacity expansion at Wagerup, Australia, came on stream in July 2000 (www.investsmartindia.com report of August 28, 2000).
[85] As can be seen in table 2, the aluminium market closed 2000 with small deficit of 80,000t from a small surplus one year before, while its average price was significantly higher than in 1999. This 2000 deficit was created even if the 200,000t of Alcoa's restarted production entered into the market.

could not have been aware of the full market consequences resulted from Alcoa's announcement. However, a first market reaction from Alcoa's January 2000 announcement was already visible by the May of that year and therefore both competition authorities could have taken it into account, but it seems that other factors, such as the low Alcoa's post-merger share in the aluminium market and the low level of concentration in that market, weighed more on those authorities' decision not to challenge the merger on that grounds.

The next step in the analysis of the second RRC strategy would be to consider how that strategy would result in higher aluminium prices. This would be possible in two cases: first, if a sufficient number of disadvantaged rivals exited the market, and, second, if the RRC policy reinforced coordination between the disadvantaged rivals, Alcoa, and the other integrated firms.

In the first case, the exit of independent smelters would result in lower output in the aluminium market, thus leading to higher prices. However, such a potential would not be very likely, since disadvantaged rivals could prove tough[86], while aluminium's nature as a volatile and complex market could make unsustainable the RRC strategy for a very long period. Moreover, certain vertically integrated firms would also lose money from such a strategy, since the lower aluminium prices would squeeze their aluminium profits and they would not be able to recoup part or all of these loses through higher profits in the SGA market, since, as shown, not all integrated firms were selling SGA on the merchant market. Thus, these firms could act against Alcoa's policy and therefore the latter could be cancelled.

In the second case, the coordination between disadvantaged rivals and integrated firms would also result in less output and higher prices. Coordination could possibly take one of the two forms: either between Alcoa and the other vertically integrated firms against independent smelters in order to force the latter to exit, or between all aluminium firms, including independent smelters, in order to raise prices. The second scenario would be more likely, since it did not require such costly policies as price wars.

[86] One of the arguments against traditional foreclosure, under which the exit of rivals is the main source of concern, is that rivals are much more tenacious and markets far more robust than antitrust had assumed. As a result, many of the foreclosure strategies will never work or will work only under very strictly defined conditions (See also Hovenkamp *op.cit.*30, 318, citing also Frank Easterbrook "Predatory Strategies and Counterstrategies" 48 *U.Chi.L.Rev.* 1983, 263). The RRC theories were developed exactly for dealing with situations where, competition is harmed without the exit of disadvantaged rivals.

Concerning the punishment mechanism, which is necessary for a sustainable collusion, the situation respecting independent smelters is clear. They could be punished through higher SGA prices, which would mean higher costs for them. If deviation came from integrated firms, punishment would come from the restart of Alcoa's idle capacity, which would drop aluminium prices thus harming the profit margins of these firms.

Regarding integrated firms however, it should be recalled that the most such firms were at the time of *Alcoa/Reynolds* merger capacity-constrained, which meant that they were unable to deviate and to retaliate against Alcoa[87]. Moreover, the Commission in its SGA decision mentioned that vertically integrated firms were sharing with Alcoa the incentive for higher prices as a means to harm downstream rivals. However, one could say the same for aluminium, because, as shown above, higher SGA prices normally result also in higher aluminium prices, while the metal is the main source of profits for vertically integrated firms. Thus, these firms could generally share the incentive for higher prices. Additional support for this conclusion could be derived from the past experience from aluminium industry, which as shown, indicated high coordination risk, and also the market events in mid-1990s when the increased aluminium supply by producers of the Eastern block violated the market equilibrium and collapsed aluminium prices in the international markets. These events were responsible for the accumulation of idle capacity in Alcoa and other major western producers, and showed that situations of oversupply, which is also the usual result of price wars, could cause significant harm to all competitors. As a result, one could say that a credible and sufficient punishment mechanism existed in the aluminium market.

Regarding monitoring, which is also essential for a sustainable policy of co-ordination, there is generally sufficient transparency in the aluminium industry to safeguard effective monitoring through the existence of the London Metal Exchange (LME), the global centre where aluminium contracts are concluded and prices are determined. The LME is a reliable source of information for the developments in aluminium supply and demand, capacity utilisation, and current and future projects for

[87] As mentioned above the level of capacity utilisation in the industry was in the period under examination above 90%, while from the limited idle capacity that existed in the market Alcoa had a lion's share. Capacity-constraints as well known in economic theory, limit both incentives to deviate and retaliation possibilities (see Olivier Compte, Frederic Jenny and Patrick Rey "Capacity Constraints, Mergers and Collusion" 46 *European Economic Review*, 2002, 1).

capacity expansions. Thus, the level of transparency in existence in the aluminium market would safeguard sufficient monitoring of possible deviations.

6.3.2.2.3 The role of entry and expansion

Effective entry, as explained above, if sufficient could cancel the anticompetitive results of a RRC strategy.

The situation regarding entry in the primary aluminium market is similar to that of SGA[88]. The construction of a new smelter, as with SGA refineries, is a capital-intensive investment and the lead-time approaches 5 years. Moreover, for a new smelter to operate, SGA supplies need to be located, which, due to the relatively tight and controlled supply of SGA, might not be always easy. Major SGA suppliers, such as Alcoa, which have also interests in the aluminium market, could act to deny SGA access to the entrant. Although complete exclusion did not seem likely, possible delayed or high-cost access could not be completely excluded, particularly taking into account the history of coordination between SGA producers. Additional problems for a new entrant could arise out from energy costs. Aluminium production is an energy-intensive process and therefore smelters should be built in areas where energy is cheap. However, there are a few places in the world where energy is cheap and this could potentially constitute additional obstacle to a viable new entry[89]. For these reasons, it is not surprising that between 1997-2002 -three years prior to *Alcoa/Reynolds* merger and two years after that- the two most significant new smelters were built by two major incumbent aluminium players, Alcan and Billiton, and no significant new entry occurred in the aluminium market. The costs of these projects, were for Alcan's 373,000t Alma smelter in Canada US$1.3billion and for Billiton's 250,000t Mozal smelter in Mozambique US$1.9billion. The construction of both smelters took several years and the huge amount of capital used showed the difficulty of such projects[90]. It is also necessary to mention that many independent firms acting in the aluminium market, particularly in the US, have acquired their

[88] See also the analysis about entry and expansion in the SGA market in chapter 4.
[89] On the issue see also Gillian O'Connor "Time to Plan a New Generation of Plants: 'Smelting: Since Smelters Need Vast Amounts of Energy to Run it is not Surprising that they are Built Where Cheap Long-Term Supplies are Available'" in *FT Surveys: Aluminium* 2001, Oct. 31, 2001.
[90] The information included in this paragraph was taken from the annual Financial Times' surveys titled "Aluminium" of 1999, 2000 and 2001.

smelters from integrated firms and have not built them themselves. However, these smelters have generally high operating costs[91].

Consequently, new entry in the aluminium market was difficult and therefore there could be no threat to RRC from that cause.

Further, in addition to entry, one should examine capacity expansions by incumbent players, particularly integrated firms. Such expansions ("brownfield" projects) occur through the construction of new production lines in existing smelters and as with SGA, they are costly, difficult and take long time (2-3 years) to complete. Thus, timely reaction by incumbent competitors through production expansion, in response to Alcoa's attempt to raise aluminium prices by foreclosing independent smelters should not be expected.

Lastly, it should be recalled that most aluminium suppliers were capacity-constrained at the time *Alcoa/Reynolds* merger and thus they were not capable of using any excess capacity to cancel aluminium price-rises.

However, with respect to entry, specific reference should be made to the role of CIS countries[92]. These countries, as mentioned above, were responsible through oversupply, for the collapsing of aluminium prices in the international markets in the mid-90s, while in the late 90s, their impact on prices was less significant but not immaterial.

Table 3 below demonstrates the situation in CIS countries and Russia:

Table 3: CIS aluminium statistics ('000 tonnes)

Primary production	1996	1997	1998
Russia	2,873	2,905	3,005
Azerbaijan	5	10	0
Tajikistan	198	189	196
Ukraine	97	101	107
CIS total	3,173	3,205	3,307
Exports	**2,676**	**2,762**	**2,850**
Consumption	572	443	457

Source: CRU International, Financial Times Surveys: Aluminium, 1999

Between 1996-1998 CIS production and exports to the West increased and this trend continued until recently[93]. The biggest production growth was registered in Russia due to the development in that country of a tolling process, according to

[91] See also James F. King *op.cit.*11, 42.
[92] Commonwealth of Independent States, which includes the most countries of the former Soviet Union.
[93] Aluminium production in Russia, the biggest CIS producer, reached 3.35 million tonnes in 2002 (source: *Metal Bulletin Monthly: Aluminium Supplement,* September 2002, 9).

which, western trading companies financed the purchase of alumina and its delivery to the smelters; they paid smelters a tolling fee and took back the resulting metal for sale in export markets[94]. Tolling in Russia enjoyed favourable tax treatment, while Russian smelters had the additional advantage of low energy costs.

However, in the late 1990s the impact of CIS countries on the aluminium market did not seem to be so significant, because the increased exports from these countries did not prevent aluminium price-rises after Gramercy. Also, as shown in the Commission's analysis for the SGA market, Russian smelters were largely dependent for their SGA supplies on imports and they would therefore suffer if a RRC strategy aiming at increasing SGA prices was applied[95]. However, Russian smelters had the competitive advantage of cheap energy and therefore were unlikely to leave the market in response to RRC.

Regarding entry and expansion in the aluminium market, one should also note that even if the long-term demand for the metal is steadily upwards (the long-term demand growth has been estimated to 2.5% annually[96]), which could generally provide for more aggressive capacity expansions to capture extra market shares, such aggressive expansions do not occur in aluminium. Instead, the fact that there is generally little excess capacity in the industry even if there is some capacity growth, indicates the existence of cautious capacity planning by the major aluminium players aiming at preserving supply/demand balance and, therefore, price stability. Thus, unlike the cyclical and sometimes extreme volatility of aluminium prices, the market balance, with the exception of the situation in mid-1990s, seems to have been under stable control. The existing policy of some large aluminium firms to act as "swing" producers by cutting output when prices are falling and increasing it when they are rising[97], imply the existence of some sort of concerted action. Thus, even if the CFI in *Airtours* considered that cautious capacity planning might not be an indicator of anticompetitive action by oligopolists[98], it seems that for aluminium the situation is

[94] See Christopher Stobart "Seeking a Long-term Strategy" in Financial Times Surveys: "Aluminium" 1999.
[95] Russian and Chinese buyers had been responsible for the huge increase in spot SGA prices following Gramercy, since these buyers were particularly active in the spot market. (see in chapter 4).
[96] See Gillian O' Connor "Hyperactivity in a Strong Market" in FT Survey: *Aluminium 1999*, October 1999.
[97] About that policy of large aluminium firms see also Gillian O' Connor *ibid.* For instance, in 2001 a year of low demand for aluminium due to the international economic downturn Alcoa's idle capacity according to the Financial Times climbed to 700,000t.
[98] Case T-342/99, *Airtours plc v. Commission*, [2002] ECR II-2585, at paras.88-92.

different from *Airtours* and therefore cautious capacity planning does indicate the existence of coordination or at least of high risk of coordination[99].

6.3.2.2.4 Summary and conclusions about possible RRC strategies in the aluminium market

As explained above, for establishing anticompetitive effects on the basis of RRC at least the following conditions should be met: **a)** the merger creates for the parties sufficient capabilities and incentives to put forward credible RRC strategies in order to undermine the competitive positions of certain rivals or force them to exit; **b)** the RRC strategy cannot be cancelled by the targeted rivals or other disruptive market forces or new entry; **c)** the RRC strategies will also unavoidably lead to higher prices thus harming competition; and **d)** the merger will not produce efficiencies sufficient to counterbalance the competitive harm.

It is submitted that the analysis of the market of primary aluminium proves the following:

Regarding the first condition, the analysis showed that the merger would make possible the exercise of at least two RRC strategies: one seeking to raise independent smelters' costs through raising SGA prices in order finally to raise also aluminium prices; and one seeking to squeeze the profit margins of independent smelters by increasing SGA prices and at the same time keeping aluminium prices low through the use of idle aluminium capacity. The second strategy would also target capacity-constrained aluminium producers and its outcome most likely would not be the exit of the targeted rivals but rather the reinforcement of collusion using Alcoa's idle capacity as a punishment. On the issue of how the merger would create sufficient capabilities and incentive to Alcoa to exercise the above-mentioned strategies, the

[99] In *Airtours ibid.*, the CFI considered that if cautious capacity planning was a feature of the relevant market prior to the merger where effective competition existed, was affecting all firms in the market and not only the members of the oligopoly, and was a measure taken by suppliers for protection against downwards volatility in demand, it is not an indicator of the exercise of collective dominance, because it does not prove that there is no competition between the alleged oligopolists.

However, it has been argued that it is precisely that play-it-safe policy that fosters tacit collusion and that even if there is no questionable practice behind this policy the final outcome can still be highly damaging for consumer welfare. It is the aggregation of the wholly rational, independent decisions of the oligopolistic firms that produces the adverse result, not active collusion on their part. According to this view, such situations fall also within the scope of the ECMR (see Andrew Scott "'Winter Talk By the Fireside?': Tacit Collusion and the Airtours Case" *J.B.L.* 2003, 298, 312-313, citing also Richard Whish, *Competition Law* (4th Ed.), Butterworths, 2001, 728: "...merger control is not, or not only, about pre-emptively preventing a merger entity from abusing its dominant position in the future...it is an instrument for the maintenance of competitive market structure...").

analysis showed that the firm would acquire through Reynolds a dominant market share in the SGA market and also increased market share in the aluminium market.

Regarding the second condition, the analysis showed that Alcoa's existing rivals would be either unable to react or willing to cooperate with the firm in order to raise aluminium prices. It was also shown that new entry in the aluminium market was difficult.

On the crucial issue whether the above-mentioned RRC strategies would result in higher aluminium prices in order to be considered as anticompetitive (third condition), the analysis used certain real-market evidence, namely the market situation following the Gramercy explosion, which showed that both these strategies could result in higher prices. Under the first strategy, the increase in the SGA prices could be passed directly to aluminium prices either through action by disadvantaged rivals or through coordination by all aluminium producers, which would realise extra profits from the higher prices. Under the second strategy, higher prices could come either if disadvantaged rivals exited the market, thus resulting in lower aluminium output, or through the enhanced possibility of coordination, which could again result in higher prices. The latter case, as shown, was more likely.

Lastly, significant efficiencies were not expected for *Alcoa/Reynolds* merger and therefore the anticompetitive effects of the merger could not be cancelled.

Thus, the above analysis using market evidence shows that the application of RRC strategies following *Alcoa/Reynolds* merger was both feasible and possible. This was confirmed also by the Commission's SGA decision, which considered that higher SGA prices would increase the costs of independent smelters and that aluminium prices could be affected[100]. However, the Commission considered that the source of Alcoa's market power was the firm's post-merger dominant position in the SGA market, which could imply the Commission's confidence that the issue could be addressed through remedies in the SGA market. Moreover, as mentioned above, the Commission's main concern in foreclosure cases is whether the disadvantaged rivals will finally exit the market, which in this case would not happen. Regarding RRC, the Commission's view, as explained, is that RRC should be taken into account along with all the other competitive effects of the merger and in this context Alcoa's post-

[100] See para.28 of the decision of *Alcoa/Reynolds*

merger market share and the post-merger level of concentration in the aluminium market did not provide for competitive risks.

On the other hand, the US decision for the SGA market went beyond the Commission by stressing that the merger would give rise to both unilateral and coordinated effects. Connecting this analysis about the SGA market to that of aluminium one would then ask why firms capable of conspiring for higher SGA prices would not conspire to raise also aluminium prices given that the same firms controlling the SGA market were major aluminium sellers. The DOJ could argue, similarly to the Commission, that the source of concern from *Alcoa/Reynolds* merger was the control of the SGA market, which was effectively addressed through the decision on the remedies, and that due to the weak post-merger position of Alcoa in the aluminium market there would be no competitive risk in that market.

A basic issue therefore to be clarified is whether by remedying the competitive problem in the SGA market, competition authorities in EU and the US addressed also potential competitive risks from *Alcoa/Reynolds* merger on the primary aluminium market. The answer to this question would also provide some guidance on the debated issue of whether there is need to establish an independent legal framework for the examination of vertical mergers, as proposed by some proponents of the post-Chicago school or whether the current framework of horizontal analysis is capable of addressing also vertical issues.

These issues are addressed below.

6.4 Remedies

The *Alcoa/Reynolds* merger would enable Alcoa to exercise at least two RRC strategies: one aiming at raising the costs of aluminium through raising the prices of SGA, the crucial raw material, for which the use of Alcoa's dominant position in the SGA market would be required; and one aiming at squeezing the profit margins of certain independent aluminium producers and capacity-constrained vertically integrated firms in order to raise aluminium prices through foreclosure or coordination. For the second strategy a combination of policies in the SGA and aluminium markets would be required. It is therefore clear that, any potential remedy seeking to cure the RRC problem should necessarily involve the SGA market.

Regarding the SGA market, it was explained in detail in the previous chapters that the EU and US competition authorities adopted relatively different approaches due to their different market definitions[101]. The Commission, having defined a merchant western-world SGA market as the relevant market was satisfied with the divestiture of all Reynolds's merchant SGA production and maybe more than that. More specifically, the Commission ordered the divestiture of Worsley and Stade refineries whose overall production capacity exceeded Reynolds's sales in the merchant market. On the other hand, the DOJ, having defined an all-SGA worldwide relevant market ordered the divestiture of virtually all Reynolds's SGA capacity worldwide, by asking Alcoa to sell, in addition to the above two refineries, also Reynolds's Corpus Christi refinery in the US.

The two decisions however had different effects on RRC strategies.

Under the Commission's decision, Alcoa was allowed to increase its total SGA capacity by keeping the Corpus Christi refinery, even if the firm's position in the merchant SGA market was not strengthened. At the same time in the market of primary aluminium, Alcoa would acquire, as can be seen from table 1, more than 1mt of aluminium smelting capacity. Thus, in total, under the Commission's decision the vertical effects of *Alcoa/Reynolds* merger, and through them the ability of Alcoa to exercise RRC strategies, would be strengthened post-merger since Alcoa would increase its position in both SGA and the primary aluminium markets.

Another important detail, which further strengthens this argument, is that in the SGA market prior to the merger Alcoa was controlling approximately 29%[102] of the world SGA capacity, while the Gramercy explosion, which caused huge price increases concerned a reduction in world capacity by 1mt or only 2%. The equivalent of 1mt in Alcoa's total pre-merger capacity was approximately 7%, which could be deemed rather immaterial taking into account the big increases in both SGA and aluminium prices that Gramercy caused. The latter event showed also that incumbent players were unable to react timely and sufficiently to close the created supply gap, and the same could have happened also in the hypothetical case where Alcoa restricted SGA by 1mt as Gramercy did. What is implied here is that Alcoa most likely had already prior to the acquisition of Reynolds been capable of affecting the market equilibrium and raising SGA prices and the remedial decision of the European

[101] See the analysis of the Commission's and DOJ's remedial action in the SGA market in chapters 4 and 5.
[102] The calculation was made by the DOJ.

Commission in *Alcoa/Reynolds* by allowing Alcoa to keep part of Reynolds's production thus increasing its total SGA capabilities further strengthened the already existing ability of the firm.

On the other hand, the DOJ's decision by not allowing the firm to keep any of Reynolds's production was more sufficient to prevent Alcoa from strengthening its SGA position post-merger. However, as just explained, Alcoa was already pre-merger in a position to raise SGA prices and this in combination with the reinforcement due to the merger of the firm's position in the aluminium market strengthened, even under the DOJ's decision, Alcoa's ability to exercise RRC. The only difference between the Commission's and the DOJ's decision is that under the latter decision Alcoa's RRC abilities were strengthened less.

It seems that for cancelling Alcoa's ability to exercise RRC strategies post-merger a combination of the DOJ's SGA divestitures along with the divestiture of Alcoa's idle aluminium capacity would be the most appropriate remedy. The DOJ's divestiture would return Alcoa's share in the SGA market to its pre-merger levels whereas the divestiture of Alcoa's idle aluminium capacity would reduce its ability to use this capacity to discipline aluminium competitors by squeezing their profits.

Another conclusion from the discussion on the remedies here is that the DOJ's market definition concerning SGA was more appropriate than that of the European Commission. In particular, the Commission's decision to exclude captive SGA sales from the product market and to exclude Eastern world from the geographic market failed to capture all competitive constraints, since it did not capture fully the RRC possibilities of the merger.

This reinforces this thesis's argument that market definition in the context of merger control, should not be technical seeking to facilitate the application of the market test but should instead be fully reflective of the competitive market conditions in order to reveal all the competitive effects of the merger.

6.5 Concluding remarks-the issue of vertical merger analysis

This chapter sought to clarify certain issues about vertical aspects of mergers. The examined issues concerned raising-rivals'-costs strategies aiming at raising prices. The main advantage of these strategies, as was explained in detail in the analysis, is that they do not require the exit of rivals to be effective.

Primary aluminium was a good case for studying the practical application of RRC strategies. The analysis used market evidence collected by this thesis from the Commission's and DOJ's decisions about *Alcoa/Reynolds* merger as well as from the thesis's own investigation. However, a more comprehensive analysis would require also the use of econometrics for calculating the potential quantitative impact of the discussed RRC on aluminium prices. Such quantitative evidence would offer further indication on whether anticompetitive price rises would be possible in aluminium after *Alcoa/Reynolds* merger. In any case, the above analysis demonstrated how in certain markets a firm apparently concentrating insufficient horizontal means of exercising market power is nevertheless capable by using its strong market position in vertically-related markets to raise prices.

The analysis of primary aluminium provided also some answers concerning vertical analysis of mergers, in particular, whether such analysis is necessary for identifying anticompetitive effects or whether horizontal analysis alone is sufficient. The aluminium market showed certain limits of horizontal analysis, which potentially prevent it from effectively dealing with all vertical issues. Thus, the low market share of Alcoa, which fell below established minimum thresholds of the EC and US merger law[103], and the low level of concentration in the aluminium market, which also fell below minimum concentration thresholds established in the two jurisdictions[104], deprived competition authorities of sufficient support by hard horizontal evidence against the merger. Thus, it would be very difficult for these authorities under the current framework to challenge the merger on horizontal grounds.

Some antitrust economists however, particularly in the US, doubt the utility of safe harbours in merger control. They have particularly targeted the market share 35% threshold, which has been considered as hiding anticompetitive effects[105]. Such a finding could also affect the credibility of the minimum HHI thresholds.

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[103] As shown minimum market shares thresholds for examining mergers in EU and the US are 25% and 35% respectively. Alcoa's post-merger market share would be less than 20%.

[104] Both jurisdictions establish a minimum HHI level of 1000 points post-merger in order to examine in details a merger. *Alcoa/Reynolds* impact on concentration would be immaterial because the post-merger HHI would be less than 1000.

[105] See e.g. Roy J. Epstein and Daniel Rubinfeld "Merger Simulation: A Simplified Approach with new Applications" 69 *Antitrust L.J.* 2002, 883, 910-911. See also Jerry A Hausman and Gregory K. Leonard "Economic Analysis of Differentiated Products Mergers Using Real World Data" 5 *Geo. Mason L.Rev.*, 1997, 321, at 338-339. Further, Jonathan Baker, another prominent US antitrust economists, cites an example based on an auction model according to which a merger creating a firm owning 20% of the market and increasing the HHI from 1000 to 1200 led to a price increase of 12.5% (Jonathan Baker "Unilateral Competitive Effects Theories in Merger Analysis" *Antitrust*, 1997, 21, 21-22)

However, abolishing or further lowering minimum market shares and concentration thresholds, which would possibly pave the way for the examination of markets such as aluminium, increases significantly the number of cases to be scrutinised by competition authorities and at the same time puts additional economic burden on the merging parties. The outcome from such a move would be poor, since the vast majority of cases falling within the current safe harbours do not give rise to anticompetitive effects. Moreover, no economist has come up so far with a more reliable alternative system, which could replace the minimum thresholds[106]. Thus, at least for now it seems that the current minimum thresholds could not change and for this reason competitive effects such as those in aluminium will not be examined.

However, the current minimum thresholds are not mandatory and it is submitted that competition authorities should not hesitate to examine mergers falling below these thresholds when there is indication that these mergers may nevertheless result in higher prices.

The above analysis of RRC strategies in the aluminium market showed that for these strategies, to be fully analysed and assessed, there is needs for a combined horizontal and vertical analysis, because they require action on two levels. Thus, in the second RRC strategy the use of Alcoa's idle aluminium capacity alone would be less effective as a threat of punishment against the targeted aluminium rivals without the parallel use of the SGA market. The idle aluminium capacity alone would help to keep aluminium prices low but the profit squeeze for the targeted firms would be much bigger if there was pressure also from higher SGA costs. In addition, under the first RRC strategy where higher SGA prices also seek to raise those of aluminium, Alcoa's strong presence in the aluminium market would make the achievement of this target easier. Conversely, for assessing Alcoa's ability to raise SGA prices one should look also the reaction of SGA competitors, which is a task of horizontal analysis. Similarly, horizontal analysis has to deal with issues of collusion in the aluminium market. As a conclusion, a complete assessment of RRC strategies as the above requires a combination of both horizontal and vertical analysis.

Regarding vertical analysis, EC merger control establishes a 25% safe harbour for vertical mergers[107]. However, this 25% concerns either level, upstream or

[106] In this respect see also Jonathan Baker and Steven Salop "Should Concentration be Dropped from the Merger Guidelines?" 33 *UWLA L.Rev.* 2001, 3.
[107] Vertical relationships in Form CO are described in subsection III, which deals with "affected markets". Form CO is Annexed to the Implementing Regulation (Commission Regulation 802/2004). In particular Form CO states

downstream, and therefore situations such as those in SGA and aluminium do not fall within this minimum threshold, since Alcoa had a market share around 50% in the SGA market. The Commission's decision as demonstrated above, referred to some vertical effects of *Alcoa/Reynolds* merger, such as that higher SGA prices would harm non-integrated competitors in the downstream market of aluminium but did not assess the full impact on that market, possibly because of the limited horizontal effects of the merger there. Also, from the Commission's analysis it could be inferred that the latter was not concerned so much about the anticompetitive effects in the aluminium market because disadvantaged competitors would not leave that market in case of higher costs. Moreover significant risk of complete foreclosure of these firms from access to SGA, the critical raw material did not seem to exist[108].

However, it is submitted that if there were a risk of higher aluminium prices as a result of the merger, the Commission had to act regardless of the low market share of the parties or the fact that disadvantaged rivals would not exit. Higher prices mean harm to consumers and this cannot be ignored.

On the other hand, under the 1984 US non-horizontal merger Guidelines RRC strategies as the above would probably fall within the cases facilitating collusion as a result of a vertical merger[109]. On the issue the guidelines, as explained, distinguish between two cases: first, if the merger leads to vertical integration to the retail level, and second if the merger eliminates a disruptive buyer[110]. However, the 1984 guidelines consider that vertical mergers are unlikely to be challenged on the above grounds if the overall concentration in the upstream market is less than 1800 HHI. But even if the merger meets or exceeds these limits "the Department's decision whether to challenge [it] on this ground will depend upon an individual evaluation of its likely competitive effect"[111].

In *Alcoa/Reynolds* the merger according to the DOJ's analysis would result in a post merger HHI of 1800 in the SGA market[112]. This meant that the merger met the

that vertical relationships exist when "...one or more of the parties to the concentration are engaged in business activities in the same product market, which is upstream or downstream of a product market in which any other party to the concentration is engaged and any of their individual or combined market shares at either level are 25% or more, regardless of whether there is or not any existing supplier/customer relationship between the parties to the concentration".

[108] As explained above the Commission's main concern in vertical mergers is the foreclosure of rivals.

[109] The other two grounds of consideration such as two-level entry and evasion of rate regulation would not arise from *Alcoa/Reynolds* merger.

[110] § 4.22 of the guidelines.

[111] §§ 4.221, 4.222 of the guidelines.

[112] See the analysis of the DOJ's decision in the previous chapter.

1800 threshold. However, *Alcoa/Reynolds* was not a vertical (or "non-horizontal") merger as defined in section 4.0 of the 1984 guidelines according to which "...non-horizontal mergers involve firms that do not operate in the same market". Alcoa and Reynolds were both vertically integrated and were both operating in both the SGA and aluminium markets.

However, as explained above, the US competition authorities generally take into account RRC theories in the analysis of vertical aspect of mergers even if they have not yet awarded these theories an official status through incorporation into the guidelines. In *Alcoa/Reynolds* it is not clear what happened regarding RRC. The DOJ may have considered it as more appropriate to solve the competition problems through horizontal analysis. The agency may also have looked to the issue and have considered that such a risk would not arise or that the only source of concern was Alcoa's post-merger dominant position in the SGA market, which was addressed through the SGA remedies and thus any risk of vertical effects was also eliminated.

In any case, and beyond aluminium, the analysis in this chapter showed that RRC theories of competitive harm should be taken seriously into account. With respect to aluminium, in particular, the analysis of RRC showed how a firm controlling low market share can nevertheless be capable of acquiring disproportional control over prices through the exercise of certain vertical strategies that produce horizontal effects.

Chapter 7

The *Rexam (PLM)/American National Can* and *Schmalbach-Lubeca/Rexam* mergers in the market for beverage cans

7.1 Introduction

This chapter deals with the analysis of the beverage can market, which was examined by the Commission in *Rexam/ANC*[1] and *Schmalbach-Lubeca/Rexam*[2] decisions.

The acquisition of American National Can ("ANC") by Rexam, a UK-based firm, was notified to the Commission on June 5, 2000. Following a Phase-I investigation the Commission concluded that the acquisition would result in the establishment of a duopolistic dominant position by Rexam and its competitor, Continental Can Europe ("CCE"), in the beverage-can market of Northern Europe (Germany, Austria, Northern France, Benelux and UK) and in the creation of single dominance in the beverage-can market of southern Europe (Spain, Portugal, Italy and Southern France).

Finally, the Commission approved the deal on July 19, 2000 after the parties submitted certain commitments sufficient to address the identified competitive concerns.

The second case, *Schmalbach-Lubeca/Rexam*, which was cleared on September 2001, concerns the acquisition by Schmalbach-Lubeca of two of Rexam's beverage can plants in UK and France, which along with another one in Germany, were the divestitures that Rexam had agreed to realise for settling the ANC deal. Schmalbach-Lubeca was no other than the Continental Can Europe (CCE) referred to in the *Rexam/ANC* decision.

The two cases raise a number of issues, which are in the context of the thesis:

[1] Case IV/M.1939, Decision of 19/7/2000.
[2] Case IV/M.2542, Decision of 17/9/2001.

a. the product market definition, which comprised aluminium and steel cans and excluded plastic (PET) and glass bottles, offers a good opportunity to study the treatment in market definition of differentiated products, a controversial and difficult issue.

b. *Rexam/ANC* also raises issues concerning the treatment of oligopolies in EC merger control. In particular, in Northern Europe where the Commission found that the merger would create a duopoly there were in existence only three firms including the duopolists. This thesis explores the potential for inclusion of the third firm in the collusive oligopoly and the Commission's doctrine on collusive oligopolies is analysed in this context.

c. This thesis uses also the situation in the beverage can market, which comprised only three firms and was therefore highly concentrated to discuss issues of practical application of the new EU doctrine on unilateral (or non-coordinated) effects.

d. This chapter continues the analysis initiated in chapters 4 and 5 of the theory of mavericks, which refers to firms having sufficient capabilities to break collusion in oligopolistc markets. The theory focuses on individual firms' behaviour and as such constitutes a tool of dynamic merger analysis which seeks to offer additional evidence on whether a merger in an oligopoly increases the risk of tacit collusion there or not. Thus, the theory helps to improve the effectiveness of merger control and as such falls within the scope of this thesis.

e. The decision on the remedies in *Rexam/ANC* whose practical application could be seen in *Schmalbach-Lubeca/Rexam* raises the issue whether the sale of assets from one duopolist to the other was sufficient to sever ties between them or whether the decision finally strengthened the collusion risk. The thesis uses this opportunity to continue the discussion on the effectiveness of the Commission's policy concerning remedies initiated in the previous chapters.

f. Other interesting competitive issues include price discrimination and buyer power.

Generally speaking the *Rexam/ANC* and *Schmalbach-Lubeca/Rexam* decisions raise certain of the most difficult issues of merger control, for which the risk of failure in competitive assessment is higher than in other areas. In particular, the interest is in the treatment of oligopolies where economic theory has not thus far offered satisfactory answers as to when an oligopolistic situation gives rise to risks of coordinated interaction, unilateral effects or no anticompetitive effects at all. Although there are in existence several theories which establish various market criteria and methods for the assessment of oligopolies, there is no consensus about which of these criteria and methods are most effective. Thus, when it comes to the application of economic theories in the specific facts of each market, competition authorities have often difficulties in distinguishing between pro-competitive and anti-competitive oligopolies and this increases the risk of failure in the application of effective merger control in these cases.

7.2 The relevant product market[3]

The merging parties were both involved in the manufacturing of beverage cans. The Commission's market definition comprised three stages:

First, the Commission examined beverage cans, plastic (PET) and glass bottles and included in the relevant product market only beverage cans on the grounds that buyers (bottlers/fillers) would not shift to PET or glass in case of a small but significant non-transitory price increase in cans. According to buyers, non-price factors, such as marketing and product image, and varying consumer preferences, were playing a crucial role in any decision to shift to other products and not the change in price. Thus, beverage cans constituted a distinct product market in the broader market of single-serve beverage packaging. This decision was in line with the Commission's previous case-law[4].

Second, the Commission examined slim and standard cans, the two main types of beverage cans, and concluded that the relevant product market should include only standard cans and exclude slim cans because buyers (bottlers/fillers) could not easily change their filling lines to accommodate apart from standard cans also slim cans. However, buyers could easily change their filling lines to accommodate the various sizes of standard cans (e.g 15, 25 or 27.5 cl.), which had all the same diameter. Moreover, the Commission's investigation did not reveal any strong preference of final consumer for any particular can size that could affect the switching possibilities of the bottlers. On the supply-side (can manufacturers) the Commission considered that switching between the various can sizes could occur at a reasonable time and at a reasonable cost and that therefore any supra-competitive price increase in cans of a

[3] Paras.7-13 of the Decision in *Rexam/ANC*

[4] The Commission referred to its decision in *VIAG/Continental Can* (Case IV/M.81).

particular size would be defeated by either customers shifting to other sizes or can manufacturers producing more cans of that size. Thus, the product market should include standard cans of all sizes and exclude slim cans.

Third, the Commission considered aluminium and steel cans, and concluded that the two products formed a single market The Commission's market investigation found a high price correlation between the two can products, almost identical end-users' and consumers' perceptions[5], and a cost difference of producing aluminium and steel cans below 2%.

As a result, the relevant product market in *Rexam/ANC* included single-serve aluminium and steel beverage cans of all sizes.

7.2.1 Product market definition involving differentiated products: some observations.

The product market definition in *Rexam/ANC* involves differentiated products[6] considerations, a task practically difficult and sometimes controversial. The biggest problem faced by competition authorities in such cases concerns the issue of which products must be included in the relevant market and which must be excluded. The existence of the differentiation often leads to the creation of a long list of products, which in one way or another could be considered as potential substitutes. The problem becomes even bigger with consumer products for which consumer perceptions and preferences determine the level of demand substitution. Consumer choice is influenced by numerous factors, such as advertising, local perceptions, social factors, and age, which are often subject to unpredictable changes, and therefore are difficult to reach and quantify.

The Commission's Notice on the relevant market[7] acknowledges that it is difficult to gather the direct views of end consumers about substitute products[8]. Moreover, functional inter-changeability or similarity in characteristics, which are

[5] The Commission found only a limited number of situations where steel and aluminium were not good substitutes for one another.

[6] Differentiation can be horizontal and/or vertical. Horizontal differentiation concerns variations in the locations of suppliers, which may constitute a significant variable of competition when transport costs are high or where local aspects are relevant. Vertical differentiation concerns the quality aspects of the product or its physical characteristics (See also E. Navarro, A. Font, J. Folguera and J. Briones, *Merger Control in the EU*, Oxford University Press, 2002, at 7.99-7.100).

In *Rexam/ANC* the product market definition dealt with issues of vertical differentiation, while certain aspects of horizontal differentiation were examined by the Commission in the geographic market definition, which is examined below.

[7] Para.41.

[8] Para.36 of the Notice.

between the non-price factors examined in market definition, may not be in themselves sufficient criteria in cases where consumers' responses to price changes are affected by other considerations also[9]. Conversely, differences in product characteristics are not in themselves sufficient to exclude demand substitutability, since this will depend to a large extent on how customers value different characteristics[10]. Moreover, from an economic-theory perspective, in the absence of a "marked gap between itself and its closest substitutes", all products with the same end-uses compete to some degree[11] and thus all have some constraining power.

Another problem raised by economic theory concerns cases where multiple imperfect substitutes exist. If examined in isolation, such products have limited constraining effect, but if combined, that effect may be considerable. In such cases the use of cross-elasticity of demand, the basic analytical tool for calculating substitution between differentiated products, cannot be very useful, because it indicates the relationship of only two products and can show the existence of sufficient substitution only if the products are very close substitutes, which is not the case with imperfect substitutes[12]. Moreover, cross-elasticities of demand can be misleading when there is significant differentiation between an array of products[13]. In such cases many products that are interchangeable will not have a high degree of cross-elasticity of demand with each other.

Further, supply substitution is often difficult to quantify because, due to the differentiation, it is difficult to determine from where supply response will come. For instance, in the market of beverage cans, where aluminium and steel cans, as the closest rivals, constitute the relevant product market, a merger between two firms controlling the dominant share in the production of these two products will give rise to anticompetitive effects in the relevant market, since competition between aluminium and steel will be eclipsed. Thus, hypothesising that the remaining aluminium and steel-can manufacturers are unable to sufficiently respond to an anticompetitive price increase and that high entry barriers exist in the beverage-can market, competition authorities will have to block the merger. However, this may not be the case if suppliers of more distant rival products, such as PET bottles, which

[9] *Ibid.* para 36.
[10] *Ibid.*
[11] See Joan Robinson, *The Economic Concept of Imperfect Competition*, (2nd Ed.), Macmillan, 1969, at 17.
[12] See also James A. Keyte "Market Definition and Differentiated Products: The Need for a Workable Standard" 63 *Antitrust L.J.* 1995, 697, at 702.
[13] *Ibid.*

were excluded from the relevant product market as imperfect substitutes, move fast to close the supply gap, caused by the lower aluminium/steel can output following the merger, by repositioning PET "closer" to beverage cans. From a merger control perspective, under such conditions, blocking the merger may be a wrong decision[14].

The adoption of the SSNIP test, which has become standard tool for market-definition purposes in the US and is broadly used also in Europe, addressed some of the difficulties. The test takes into account demand and supply substitution between more products and can, thus, deal with the issue of imperfect substitutes. It also helps to deal with issues of price discrimination at the stage of market definition. However, for applying the SSNIP test, estimates of multiple cross-price demand elasticities are required[15] and this entails, though more limited, the abovementioned risks. Moreover, the selection of the appropriate price-increase level and time period for the test requires assessment of the specific market conditions, for which complex judgments using practical evidence are required[16]. There are also markets where a small price increase of e.g. 10% can be unprofitable but a larger increase of e.g. 20% can be profitable[17]. If the 10% level is used, then competition authorities will have to expand the relevant market to include the next best substitute. Thus, the finally defined market will be broad enough not to capture the market power of a firm capable of increasing its prices by 20%. Such a problem is more likely to arise in differentiated products where differentiation enables firms to exercise some degree of market power over their products. Furthermore, the application of the test, by using a predetermined price increase and starting with the basic product and its very closest substitutes, often results in the definition of relatively narrow product markets, which do not

[14] See also Simon Baker and Andrea Coscelli "The Role of Market Shares in Differentiated Product Markets" 20 *E.C.L.Rev.* 1999, 412, at 417-418.

[15] The test includes cross-elasticities and residual demand elasticities calculations. Cross-price elasticities are significant for determining the next best substitute product, while residual demand elasticities indicate if the price increase is profitable (see Joseph J. Simons and Michael Williams "The Renaissance of Market Definition" *Antitrust Bull.*, 1993, 799, at 825; also Gregory Werden "Demand Elasticities in Antitrust Analysis" 66 *Antitrust L.J.*, 1998, 363; Pietro Crocioni "The Hypothetical Monopoly Test: What it Can and Cannot Tell You" 23 *E.C.L.Rev.*, 2002, 354, at 355).

[16] See also George B. Shepherd, Helen S. Shepherd and William G. Shepherd "Sharper Focus: Merger Shares in the Merger Guidelines" *Antitrust Bull.* 2000, 835, at 867. For the practical problems associated with the application of the SSNIP test in the US see Ky P Ewing Jr *Competition Rules for the 21st Century: Principles from America's Experience*, Kluwer, 2003, p.188-190.

[17] This could happen when the largest fraction of firm's customers is relatively non-sensitive to price increases. In such a case a small price increase could be defeated by the switch of the minority of price-sensitive ("marginal") customers to other substitutes, but a larger increase might be large enough not to be defeated by the switch of all of the price-sensitive customers and an insubstantial part of non-sensitive customers. Thus, the large price increase could be profitable (see also James Langenfeld and Wenqing Li "Critical Loss Analysis in Evaluating Mergers" *Antitrust Bull.* 2001, 299, at 309-311).

incorporate all possible substitutes, but only the closest ones[18]. In such cases the potential exercise of market power may be overstated. Lastly, the SSNIP test focuses largely on price competition and thus fails to consider other variables, such as product attributes[19]. A merger, though, could potentially lead merging parties to supra-competitive profits also by reducing the quality and the cost of the product through appropriately varying its attributes without increasing prices[20]. Such attribute variation would be less visible to consumers in differentiated-product markets in which, due to the differentiation, there are already in existence differences in attributes. Thus, SSNIP by focusing on price competition fails to effectively deal with cases as the above.

Economists have developed certain new tools, such as critical loss and critical elasticity of demand, which without solving all the problems help to render the application of the SSNIP test more reliable[21]. However, and despite the undeniable utility of the SSNIP test in market definition[22], it might be more appropriate, particularly in differentiated products the results of the application of this test to be compared with the results of other tests and methods used in market definition as well as with market evidence.

The problem of drawing the outer boundaries of the relevant product market in differentiated products has led some economists in the US to question even the need

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[18] See James Keyte *op.cit.*12, at 700; also Malcolm B. Coate and A.E. Rodriguez "Pitfalls in Merger Analysis: The Dirty Dozen" 30 *N.M.L.Rev.* 2000, 227, at 237.

[19] See also Raymond S. Hartman "Price-Performance Competition and the Merger Guidelines" 18 *Rev.Ind.Org.* 2001, 53, at 62; also Crocioni *op.cit.*15 at 362; *cf* Bishop and Walker who argue that non-price elements such as the product quality, physical characteristics and intended use are taken into account in the application of the SSNIP test. (Simon Bishop and Mike Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement*, Sweet & Maxwell, 2002, at 4.09).

[20] From para.8 of the Guidelines on the assessment of horizontal mergers it could be inferred that the Commission's policy is to deal also with mergers, which, apart from increasing prices, result also in reduced output, choice or quality of goods and services, diminished innovation or otherwise influence parameters of competition.

[21] The former test was proposed by Harris and Simons (see Barry C. Harris and Joseph J. Simons "Focusing Market Definition: How Much Substitution is Enough?" 12 *Res.L.& Econ.*, 1989, 207) and it estimates the amount of lost sales that would make a price increase unprofitable and then asks whether such a price increase would lead to such a loss of sales. Critical loss analysis has certain advantages, such as relative simplicity in application, and it is very useful in the evaluation of relatively large price increases. However, it is not without problems (for a review and critique on the method see Kenneth L. Danger and H.E. Frech III "Critical Thinking about 'Critical Loss' in Antitrust" *Antitrust Bull.* 2001, 299; also Langenfeld and Li *op.cit.*16).

As regards the critical elasticity of demand analysis, it usually compares an estimate of the elasticity of demand to the "critical" elasticity of demand needed to make a price increase profitable. In relation to the critical loss analysis critical elasticity of demand has some similarities in application, but it generally requires more information and is more complicated (see Langenfeld and Li *op.cit.*16, at 309 and Gregory Werden "Demand Elasticities in Antitrust Analysis" 66 *Antitrust L.J.* 1998, 363, at 387-391).

[22] For an assessment of the utility of the SSNIP test in the context of EC competition law see Alison Jones and Brenda Sufrin, *EC Competition Law, Text, Cases and Materials*,(2nd Ed.), Oxford University Press, 2004, at 53-62; for a general assessment of the application of the SSNIP test in the US, where it was imported in merger control in 1982, see Gregory Werden "The 1982 Merger Guidelines and the Ascent of Hypothetical Monopoly Paradigm" available at www.usdoj.gov/atr/hmerger.htm#papers

of market definition in such cases[23]. This, however, means that the calculation of market shares and concentration, which is based on market definition, is not needed either. Those economists argue that structural analysis based on market shares and concentration is problematic when differentiated products are involved because it entirely ignores the differences between those products[24]. Moreover, structural analysis often assumes that the only effective competitors are those firms that fall within the market boundaries, whilst those who have been excluded, have negligible impact on the suppliers being in the market[25]. Such a distinction, they argue, would misrepresent competition in differentiated products markets, where all products, regardless "in" or "out" of the relevant market, compete to some degree against each other[26]. Opponents of structural analysis also submit[27] that under a pure market-share approach the firm's ability to exercise market power over its competitors and consumers is proportional to its market share, which they say for differentiated products does not hold, because the existence of differentiation allows firms with low market share to exercise disproportionate market power. This is possible because these firms are not significantly constrained by their competitors, or at least not as much as when the products are homogeneous. It is therefore suggested by the opponents that the focus should be on the possibility of individual price increases (the so-called "unilateral effects") rather than on general price increases through co-

[23] According to Keyte *op.cit.*12 at 703, the relevant product market finally becomes underinclusive or overinclusive. See also *infra*.

[24] See Jerry A. Hausman and Gregory K. Leonard "Economic Analysis of Differentiated Products Mergers Using Real World Data" 5 *Geo. Mason L.Rev.* 1997, 321, at 338. Gregory Werden, another economist, argues that even if structural analysis defined the relevant product market very broadly taking into account to a large extent the differentiation, this would result in small market shares for the firms: "Shares of a very broad market do not indicate what really matters- how often consumers of the product(s) of either merging firm view a product of the other merging firm as their next-best substitute, and how close other substitutes are in such cases". (See Gregory Werden "Simulating The Effects of Differentiated Products Mergers: A Practical Alternative to Structural Merger Policy" 5 *Geo. Mason L. Rev.* 1997, 363, at 368-369). See also Baker and Coscelli *op.cit.*13, at 412.

[25] According to Richard Schmalensee: "The market share approach depends on the implicit assumption that 'marked gaps in the chain of substitutes' generally occur in convenient places. That is, the approach assumes not only that the gaps separating included from excluded products are sufficiently wide that all excluded products may be neglected in an analysis of market power, but also that all products within 'the relevant market' defined by those gaps are very close substitutes"... "When a sizeable number of differentiated products are involved 'marked gaps in the chain of substitutes' will seldom occur in convenient places, and the market share measure of market power is not likely to be reliable"... "A low market share does not necessarily establish that market power is negligible, for competition may be 'localised': a particular firm or brand may have only a few effective rivals even though a large number of generally similar brands are marketed, or firms may have long-term market power by virtue of membership in 'strategic groups' protected by 'mobility barriers'. A large share of differentiated products provides evidence of substantial market power only if the market definition is not excessively narrow" (See Richard Schmalensee "Another Look at Market Power" 95 *Harv.L.Rev.* 1982, 1789, at 1799-1800; also Robinson *op.cit.*10, at 5,6).

[26] See also Simon Baker and Lawrence Wu "Applying the Market Definition Guidelines of the European Commission" 19 *E.C.L.Rev.*, 1998, 273, at 277; also Schmalensee *ibid.*

[27] *Ibid.*

ordinated interaction. As a result, structural analysis, which is oriented mostly against risks of market coordination, is not necessary in differentiated products.

The alternative method proposed by those economists[28] is the adoption of quantitative merger simulation techniques that allow direct estimate of the competitive effects of the mergers. These techniques use various types of available data, such as pre-merger market prices and profit margins, to calculate post-merger price increases. Also, some require no market definition, which has led to arguments that the latter is needless[29]. In substance, the simulation models contain multiple own and cross-elasticities' estimates based on real world data. Such data are now more available than in the past and many proponents of simulation appear confident to effectively remove the obstacles for abandoning market definition identified by Richard Posner back in 1976: "[i]t is only because we lack confidence in our ability to measure elasticities, or perhaps we do not think of adopting so explicitly an economic approach, that we have to define markets[30]".

However, despite the problems and limitations of structural analysis it is submitted that it is premature to abandon it in favour of merger simulation because the latter is not without problems either. For instance, the reliance on static econometric models deprives the technique of the ability to take into sufficient account all market dynamics[31], while simulation is not particularly useful for issues of collusion[32]. Moreover, sufficient data are still not available for all markets, while the effectiveness of the technique has not yet been fully tested[33]. It, therefore, seems more appropriate

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[28] See Gregory J. Werden *op.cit.*24; also Carl Shapiro "Mergers with Differentiated Products" *Antitrust*, 1996, 23; Jerry Hausman, Gregory Leonard and J. Douglas Zona "Competitive Analysis with differentiated Products" 34 *Annales d'Economie et de Statistique*, 1994, 159.

[29] See e.g. Werden *op.cit.*24, at 384 ("Another possibility is that simulation be deemed to subsume structural analysis"); also Hausman *op.cit.*24, at 338 ("But once these elasticities are estimated, the price effect of a merger can be determined directly and the structural approach of using market shares is totally redundant").

[30] Richard Posner, *Antitrust Law, An Economic Perspective"* University of Chicago Press, 1976, at 125.

[31] See also James F. Rill "Practicing What they Preach: One Lawyer' s View of Econometric Models in Differentiated Products Mergers" 5 *Geo. Mason L. Rev.*, 1997, 393, at 401-403, citing also Shapiro *op.cit.*28, at 27 (indicating that the econometric "demand-side" analysis "invariably will lead to the inter-firm prediction that prices will rise after the merger, if indeed (the merging brands) compete with each other" and that product repositioning, entry, and synergies are crucial considerations against which the predicted price increase must be tested"); also Ben Dubow, David Elliott and Eric Morrison "Unilateral Effects and Merger Simulation Models" 25 *E.C.L.Rev.* 2004, 114). Lastly, according to Werden et al. "...the reliability of any particular application of merger simulation should be gauged by examining the modelling process, which is at least as much art as science. To make the myriad choices required, the modellers draw on prior belief as well as the available data, so any predictions from a model derive from a complex combination of beliefs qualitative evidence and data" (Gregory J. Werden, Luke M. Froeb and David T. Scheffman "A Daubert Discipline for Merger Simulation" *Antitrust* Summer, 2004, 89,at 89).

[32] See also Bishop and Walker *op cit.*19, at 10.31-10.33.

[33] See also James F.Rill *op.cit.*31, at 401; also Timothy Muris "Economics and Antitrust" 5 *Geo. Mason L.Rev.* 1997, 303, at 311.

for now to consider merger simulation as an additional tool of structural analysis and not as an alternative to the latter[34].

However, it should be also noted that in the EU the Commission would face legal problems if it attempted to abandon market definition and thus structural analysis because the ECJ has ruled that market definition is essential for the competitive assessment[35].

In the context of structural analysis, the EU approach to market definition appears flexible, since the Commission does not follow the strict methodology of the US guidelines, which relies on the vigorous application of the SSNIP test. The Commission, instead, considers SSNIP as one method for defining markets and makes extensive use also of other methods, qualitative ones, such as functional interchangeability and product characteristics[36]. Results of merger simulation and other econometrics have also been examined in certain cases[37]. Moreover, the Commission follows an open approach to empirical evidence and has not established a rigid hierarchy of different sources of information or types of evidence[38]. Concerning differentiated products, such a policy could potentially enable the Commission to use all available sources of information to make effective market definition[39] in these difficult cases. Regarding consumer products, in particular, the Commission in order to disclose consumer perceptions and preferences has often made use of consumer studies carried out by firms in the market or by interest groups and organisations and has also looked to consumption patterns and the way goods are

[34] See Rill and Muris *ibid.*; also according to Epstein and Rubinfeld the use of merger simulation techniques can in certain circumstances justify "renewed reliance on market shares as a pragmatic benchmark to assess competition" and that "market shares can be highly informative when combined with well-grounded economic principles". Roy J. Epstein and Daniel L.Rubinfeld "Merger Simulation: A Simplified Approach with New Applications" 69 *Antitrust L.J.*, 2002, 883, at 912.

[35] Case 6/72 *Europemballage Corp. and Continental Can Co Inc. v. Commission* [1973] ECR 215 [1973] CMLR 199 para.32. See also in the analysis of the Commission's policy about market definition in Chapter 3.

[36] Even if the Notice on the relevant market in paragraph 36 considers functional interchangeability and product characteristics in themselves insufficient for defining markets it seems that the Commission uses them quite often particularly when it reviews mergers, which are cleared because they do not give rise to anticompetitive effects (see also C.J. Cook and C.S. Kerse, *E.C. Merger Control* (3rd Ed.) Sweet & Maxwell, 2000, at 5.3.2).

[37] Very recent cases where the results of merger simulation were examined in detail by the Commission were *Oracle/Peoplesoft* (Case COMP/M.3216, Decision of 26 October 2004) *Philip Morris/Papastratos* (Case COMP/M.3191, Decision of 2 October 2003), *Volvo/Scania* (Case COMP/M. 1672, Decision of 15 March 2000). In *GE/Instrumentarium* (Case IV/M.3083 *GE/Instrumentarium* (Decision of 2 September 2003) the Commission conducted econometrics analysis on the likely impact of the merger on prices, while it also made extended reference to other relevant econometrics studies.

According to a view, merger simulation can be also useful in the quantification of efficiency arguments (see Liam Colley "From 'Defence' to 'Attack'? Quantifying Efficiency Arguments in Mergers" 25 *E.C.L.Rev.* 2004, 342)

[38] See para.25 of the Notice.

[39] That is, market definition reflective of the competitive constraints as prescribed in paragraph 2 of the Notice on the relevant market.

displayed at the retail level[40]. Moreover, quantitative techniques, such as price elasticity, cross-elasticity of demand, and price correlation have also been used[41].

Many economists and competition lawyers[42] have exerted pressure on the Commission to make more use of rigorous economic methods when defining markets. Regarding differentiated-product markets, it seems that the use of quantitative evidence, when sufficient market data are available, is necessary for determining the level of substitution between the products in question. However, qualitative assessments are also required in such cases and therefore a combination of the two may be the most appropriate solution.

7.2.2 The relevant product market definition in Rexam/ANC

The three stages of the Commission's definition will be examined separately:

<u>a. Cans versus plastic and glass bottles: issues and comments</u>

The Commission, as explained above, applied the SSNIP test and found that buyers (bottlers/fillers) would not shift away from cans towards PET and glass in response to a small but significant and not transitory price increase in cans. It also cited buyers' views that non-price factors played a crucial role in any decision to shift and not a price-increase in the cans[43].

The Commission's decision was in line with previous case-law, namely its decision in *VIAG/Continental Can*[44]. In the latter case, where similar conclusions had been reached, several factors[45] affecting demand substitution had been examined:

a. the specific beverage packaged: for beer virtually only glass and cans are accepted, while for carbonated soft drinks glass, plastic and cans are used;

[40] About these issues see also Belamy & Child, *European Community Law of Competition*, (P.M. Roth QC Ed.), 5th Ed., Sweet & Maxwell, 2002, at 6.107; also Navarro et al., *op.cit.*6, at 5.49-5.55.

[41] See also Navarro et al., *op.cit.*6, at 5.62-5.83.

[42] See e.g. Roger J. Van den Bergh "Modern Industrial Organisation versus Old-Fashioned Competition Law" 17 *E.C.L.Rev.*, 1996, 75; Baker and Wu *op.cit.*25; Baker and Coscelli *op.cit.*13; Thomas Kauper "The Problem of Market Definition Under EC Competition Law" 20 *Fordham Int'l L.J.* 1997, 1682; Peter D. Camesasca and Roger J. Van den Bergh "Achilles Uncovered: Revisiting the European Commission' s 1997 Market Definition Notice" *Antitrust Bull.* 2002, 143.

[43] *Ibid.*

[44] Case IV/M.081 *VIAG/Continental Can*, decision of 6 June 1991.

[45] *Ibid.* para. 12.

b. Consumer preferences: within each beverage sector the shares of the differentiated packaging materials remain relatively stable, which seems to reflect preferences of consumers based on perceptions of taste, convenience and possibly other factors that change only in the medium or long term;

c. Price differences: prices of the various packaging materials vary considerably indicating different product markets;

d. Competition in the downstream market of filled products: the different drinks are not perfectly substitutable meaning that the impact of downstream competition on the packaging market depends in the short term on the cost share of the packaging product in the sales price of the final filled product; the cost share is generally small indicating that price changes in the packaging products will not cause significant changes in the price of filled products and thus there will be no significant switch by fillers from one packaging product to another; therefore there exists a relative price independence between the different packaging products and changes in the material depend on demand trends in the market including environmental aspects, such as the pressure against one-way packaging

e. Filling equipment: except from tinplate and aluminium cans which can be filled with the same machines, each packaging material requires specific filling machinery.

In *VIAG/Continental Can* the Commission had also examined supply-substitutability[46] and had found that the use of different raw materials created different market structures for the suppliers of glass, plastic and metal packaging products, because the manufacturing technologies and equipment used differed substantially, thus making any switch from the production of one packaging product to another technically impossible. An exception was established only for tinplate (steel) and aluminium can, which use the same manufacturing technology and equipment.

In looking at the Commission's analysis in *Rexam/ANC* this thesis will first focus on the application of the SSNIP test. The Commission did not explain which benchmark price and price-increase range it used in the test. This makes difficult the assessment of the Commission's argument that changes in can prices would not cause buyers' shift towards PET and glass. However, the market situation might have

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[46] *Ibid.* para.13.

indicated that SSNIP alone was not a very sufficient tool for defining the product market in this case.

In more detail, the Commission's investigation about the geographic market of beverage cans found that can prices in the UK were 40% higher than in the rest Northern Europe[47], while within Europe there were several distinct geographic markets for cans due to the existence amongst others of transportation costs[48]. In particular, transportation costs amounted to 5% of the can price for a distance up to 500km and 10% for up to or above 1000km[49]. These findings indicated the existence of what is called "localised" competition[50] between can manufacturers in some areas, which gives rise to certain questions about the application of the SSNIP test by the Commission. Was the test applied separately to each European country or at least to each distinct geographic market[51] taking into account local prices? Or did the Commission use an average European price as the benchmark price for the test? And what price-increase rate was used? Further, if competition between can manufacturers was localised, this might mean that competition in certain local markets involved also PET and/or glass and not only can manufacturers. The examples of Germany and UK could be illustrative in this respect.

In Germany, the biggest European market, cans generally face strong competition by glass and PET. In 2001, cans' share in the beer market was in Berlin 44%, whilst in Bavaria only 20%[52]. Glass is the prevalent material in Germany because it has the major advantage that it can be refilled. Environmental factors play a significant role in German consumers' choices and this allows glass to dominate the market. Also, in 1999, a leading German tinplate (steel) producer Rasseistein Hoesch GmbH published a study[53] about new can designs. The study took into account views by 22 breweries and producers of non-alcoholic beverages. Half of these breweries and 4 non-alcoholic beverage producers stated that they were keen on experimenting with the design of cans if it would not make production costs to go up by more than 5%. The

[47] See para.19 of the decision.
[48] See the analysis of geographic market *infra.*
[49] See para. 20 of the decision.
[50] "Markets with localised competition are characterised by consumer diversity either through differences in consumer tastes for product attributes or differences in consumers' geographic locations" (See David T. Levy and James D. Reitzes "The Importance of Localised Competition in the 1992 Merger Guidelines: How Closely Do Merging Firms Compete?" 62 *Antitrust L.J.*, 1994, 695, at 698).
[51] As will be shown below, the geographic market for cans in Europe was regional and in certain cases national.
[52] Source: Can Makers UK.
[53] See Christian Kohl "German Drink Makers Favour New Can Designs" *American Metal Market*, August 12, 1999.

head of marketing department of Rasseistein Hoesch acknowledged that it was competition between materials that pushed the creativity of producers and that without pressure by PET bottles they would have never come up with new can designs[54]. The above market information shows that in Germany cans are facing strong competition by glass and PET.

In the UK, another major European market, the situation is different. Apart from the can-price differential with Germany, the allocation of market shares between cans, glass and PET in the beer market is also different. In 2001 cans controlled a 68% market share followed by glass with 24% and PET, which entered into the beer market only in 1999, with 8%[55].

Further, the presence of PET is even more significant in all European markets in the market segment of single-serve beverage packaging where many market analysts agree[56] that the product gains market shares at the expense of glass and cans. According to ANC[57], plastic bottles have attributes, such as resealability, clarity and shapability, which make them competitive against cans in the single-serve market. The fact that the market share of cans in many European countries is relatively unchanged or even increasing is because cans gain market share against PET in the market segment of multipacks where cans compete with big PET bottles. However, the single-serve market is relevant with the analysis in *Rexam/ANC* and in this market PET seems to exercise considerable constraining power on cans.

The above references show some of the difficulties in applying the SSNIP in markets where different conditions and prices exist. But even if the price increase for cans proposed by SSNIP were profitable, would this be sufficient evidence for excluding PET and glass from the relevant product market?

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[54] *Ibid.*

[55] Source: Can Makers UK

[56] Single-serve market, concerns sale of single products as opposed to multipack markets where cans are sold in packs of 4, 6, 12 or more cans. The general view of market analysts at the time of *Rexam/ANC* merger was that PET was gaining ground in single-serve markets, whilst cans in the multipacks. However, for the future analysts expected can and PET to find a stable medium. (See Paul Solman "European Can Take-up Advances" in Financial Times Survey: *Aluminium 2000*; Gillian O'Connor "Packaging: A growing Sector but at Slower Rate" in Financial Times Survey: *Aluminium 1999*; Kohl *op.cit.*53; Myra Pinkham "Can Growth Expected Despite inroads by PET" *American Metal Market,* October 27, 1999; Bob Regan "Plastic Beer Bottle Takes Aim at Cans" *American Metal Market,* March 30, 1999; Bob Regan "ANC Sees Beer Can Comeback" *American Metal Market,* July 5, 1999; Phillip Burgert "Cans Feel the Crunch of Slow Beverage Use" *American Metal Market*, January 26, 2000; "Crown Cork & Seal Launches First Pasteurisable PET Beer Bottle" *PR Newswire,* October 15, 2001). With regard to the UK market in particular, Can Makers UK cite a report by a market analyst that in 2001 PET bottles achieved modest market gains in the single-serve market.

[57] See the firm's report dated 28/7/1999 to the US Security and Exchange Commission (SEC), available at www.sec.gov/Archives/edgar/data/1084304/0000950137-99-002666.txt

According to Herbert Hovenkamp[58], the application of the SSNIP test, especially the selection of the appropriate price-increase rate, is a question of policy not one of economics *per se.* All depends on how much market power competition authorities want to squeeze out of markets given their capabilities and the costs of antitrust enforcement. Regarding differentiated products Hovenkamp's view is that "small" monopoly profits are "ubiquitous and...even...desirable": "...[M]arkets are differentiated because consumers want them that way, and these small monopoly profits are often nothing more than the consequences of a firm differentiating itself sufficiently from rivals to make its output more attractive to consumers. Likewise, firms innovate in order to capture returns above the competitive level and the incentive to innovate disappears when firms are permitted to earn only competitive returns". Hovenkamp suggests that this is one of the factors to be taken into account in the application of the SSNIP test. Thus, applying the above view to beverage cans one could say that finding through SSNIP that beverage-can makers are able to extract "small"[59] monopoly profits through supra-competitive price increases in cans might not be in itself sufficient to justify the exclusion of PET and glass from the product market and that other market factors should also have to be taken into account.

Regarding the Commission's analysis in *VIAG/Continental Can*, which offers additional information about the relationship between cans, PET and glass, some comments should also be made.

First, the Commission in order to prove that consumer preferences concerning these materials were difficult to change argued that the market shares of these materials were relatively stable and changed only in the medium and long-term. However, compared with the market situation in 1991 when the *VIAG/Continental Can* decision was adopted, the market situation in 2000 when *Rexam/ANC* was reviewed could have been different.

For instance, in the European market for beer the share of cans rose from 14.4% in 1991[60] to 25% in 2001[61] at the expense of glass. This meant that beer consumers had shifted away from glass towards cans during the 1990s. On the other hand, in the late 1990s a new category of can products, the so-called "contoured" cans –fluted

[58] See Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and Its Practice*, (2[nd] Ed.)West Group, 1999, at 84, citing also Hall "The Relation Between Price and Marginal Cost in US Industry" 96 *J.Pol.Econ.*, 1988, 921, at 940-948, 949.
[59] The term "small" obviously is subject to interpretation taking into account the market conditions.
[60] See Commission's decision in VIAG/Continental Can at para.10.
[61] Source: ANC

cans, and cans that look like bottles and kegs- appeared in that market. On the issue, a market report by packaging machinery producers[62], referred to the opinion of a sales director for a packaging machinery-maker, who said that the beer industry was increasingly being driven by branding and marketing, shapes and contours. The introduction of these contoured cans was nothing else than the result of tough competition between cans, glass and PET and this could also indicate changing consumer preferences in the late 1990s. The Commission in its *Rexam/ANC* decision considered the developments with contoured cans marginal with no significant market impact without however providing any evidence in support of its views[63].

However, the views of Coca-Cola, the largest world bottler are also illustrative about competition between cans and PET in the soft-drink market. According to a firm's executive[64]: "...[C]an makers must adapt to developing value-added products, which allow for a more flexible approach to size and appearance...Coca-Cola would like to introduce contoured cans that emulate the classic Coca-Cola bottle shape but the technology has not been developed with aluminium...[The technology] has [been developed] with PET, which is why that material has been increasingly important to [Coca-Cola]...Aluminium has to give value added by offering such features as the ability to re-seal packaging that is now found with PET or it will follow the history of steel in the packaging drinks industry"[65].

Regarding the existence of significant price differences between cans, glass and plastic, which in *VIAG/Continental Can* had been considered as indicating separate product markets, the situation in 2000 was as follows. According to the UK Can Makers, PET and glass were 53% and 77% more expensive to deliver than cans[66]. However, it has to be mentioned that these big price differentials could be partly attributed to the different volumes of beverage included in each packaging material. Cans contain 330ml, PET 500ml, while bottle 1000ml of beverage.

The examination of price differences in product market definition seeks to distinguish between products, which may be "functionally substitutable, but in reality

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[62] "Thirsty for Profits", *Modern Materials Handling*, May 2001.
[63] Para. 24, footnote 9.
[64] See Phillip Burgert "Coke Exec Advises Can Makers", *American Metal Market*, Oct. 27, 1998. Similar views about PET have been recorded in the Commission's market investigation in *Tetra/Sidel* (Case COMP/M.2416 Decision of 20/10/2001 in para.101).
[65] The canned-drinks industry switched from steel to aluminium two decades ago after steel failed to respond to the needs of bottlers.
[66] Source: www.canmakers.co.uk

are not interchangeable"[67]. Price differentials, even if commonly[68] used by the Commission as indicators of separate markets, may not always be reliable especially when they reflect differences in quality. In such cases, it has been suggested that consumers may be able to make a trade-off between price and quality[69]. In any case, the examination of price differences in *Rexam/ANC* would have produced safer conclusions if it had been accompanied by parallel examination of price correlation[70].

Regarding switching costs of buyers between can and PET or glass, which were also mentioned in *VIAG/Continental Can*, it could be said that even if such switching costs really existed, this might not in itself exclude the possibility of switch between the packaging materials in the future. As already mentioned, in the Commission's decision in *Rexam/ANC* non-price factors affected the selection between the packaging solutions and, thus, one could say that if these factors indicated the need to switch from cans to, for instance, PET, then switching costs might not be a problem. On this issue a market report citing the views of market experts[71] states that bottling-line upgrades today most often involve plastic containers. Fillers/bottlers shift from the cans to PET because single-serve soft drinks in PET bottles offer higher profit margins than those in cans. This report along with other information from the market mentioned above seem to strengthen the argument that PET and glass exercise constraining power over cans.

As regards supply-substitution, the Commission in *VIAG/Continental Can* had found that there were in existence significant switching costs between cans, PET and glass and that therefore these products were in distinct markets. This view was implicitly confirmed in *Rexam/ANC*, where the application of SSNIP definitely took into account the reaction of suppliers in response to the imposition of a small but significant and non-transitory price-increase in cans. On the issue, therefore those mentioned above about the SSNIP test also hold.

[67] Christopher Jones and F. Enrique Gonzalez-Diaz, *The EEC Merger Regulation*, Sweet and Maxwell, 1992, at 112.
[68] E.g. in *Torras/Sarrio* (Case IV/M.166 [1992], 4 CMLR 341) one factor relied upon in putting coated and uncoated paper in different market was that coated paper prices were roughly 15% higher. Also in *Nestle/Perrier* (Case IV/M.190 [1992] OJ L356/1, [1993] CMLR M17) price differences was one of the factors that played role for the inclusion of bottled source waters and soft drinks in separate product markets. See also Navarro *et al.* *op.cit.*6, at 5.79-5.83.
[69] See Bishop and Walker, *op.cit.*19 at 4.51. Areeda et al go further by arguing that products "can be near-perfect substitutes even when their prices or qualities differ" (Phillip E. Areeda et al., *IIA Antitrust Law: An Analysis of Antitrust Principles and Their Applications*, 1995, 562c).
[70] See also Kauper *op.cit.*42, at 1738. Price correlation method is also examined *infra*.
[71] See "Thirsty for Profits", *Modern Materials Handling*, May 2001.

In sum, the Commission's market definition in *Rexam/ANC* was based on the SSNIP test, which indicated the existence of a distinct product market for beverage cans. From its previous decision in *VIAG/Continental Can,* more evidence could be used to support this view, such as switching costs, consumer preferences and supply substitution. On the other hand, various market reports and other evidence, cited by this thesis, indicated that PET and glass competed vigorously against cans particularly in the single-serve market in which the former products had certain advantages, such as resealability and shapeability, and that therefore these products exercised constraining power over cans. The presence of such constraining power could be seen in the pressure on cans for the introduction of new shapes and contours and in the market-shares gains by PET in the single-serve market, while pressure on prices could not be excluded[72]. The Commission obviously considered the pressure from PET and glass as marginal and therefore did not include them in the relevant market. However, excluding PET and glass meant that some factors constraining the ability of the merged entity to exercise market power in the can market would be completely ignored in the competitive assessment of the merger thus overstating the market power of the merging firms[73].

A potentially more appropriate approach might have been a decision similar to that adopted by the Commission in *Tetra-Laval/Sidel*[74] one year after the *Rexam/ANC* decision. In *Tetra-Laval/Sidel* the Commission's investigation found that carton and PET packaging systems were fiercely competing for market shares in the liquid food market but, nevertheless, the level of substitution between the two systems was not high enough to justify their inclusion in the same product market, a possibility which however, could not be excluded for the future. Therefore the Commission defined the relevant product market as including only the carton packaging systems, but decided to examine the constraining influence of PET upon carton at the stage of the competitive assessment[75].

[72] The firms' activity for the introduction of new products has been characterised as "differentiation over time" (see Jonathan Baker "Product Differentiation through Space and Time: Some Antitrust Policy Issues, *Antitrust Bull.,* 1997, 177, at 190). Innovation can also result in the improvement of the quality of existing products or in lower production costs, which are also beneficial to consumers.
[73] Valentine Korah has noted: "In order to decide whether a firm enjoys market power, it is necessary to analyse the market to see what competitive pressures constrain the ability of the firm to exploit its suppliers, customers or consumers...Competitive pressures on market decisions may come from the supply of goods that are not identical, even if some customers would not switch" (See Valentine Korah "The Michelin Decision of the Commission" 7 *E.L.Rev.,* 1982, 130, at 130-1.
[74] Case COMP/M.2416 *Tetra/Sidel* Decision of 20/10/2001.
[75] *Ibid.* paras.162-164.

In any case, market definition for merger-control purposes is dependent upon the parameters used by competition agencies in the definition. The selection, for instance, of a long or short timeframe could have impact on the definition. By way of example, Scherer and Ross[76] using data from the US market applied three different methods for determining if glass bottles and plastic containers (PET) were in the same market for merger evaluation purposes: SSNIP test, cross-elasticity of demand, and price correlation over time. The conclusions reached were as follows: in the short term and taking into account the price-differences between the two products, all methods suggested that the two products most likely were in separate and distinct markets. Conversely, if technological progress was more rapid for one commodity[77] and if a relatively long timeframe was adopted, the three methods showed, that the two commodities were in the same market. The same conclusion was reached for the case where significant fluctuations over time in the supply conditions occurred for at least one commodity and were uncorrelated with those of the other commodity[78]. In *Rexam/ANC* the adoption of a different timeframe than that used by the Commission in the application of the SSNIP test might have resulted in different market definitions just as Scherer and Ross suggested. However it is difficult to say, which timeframe would be more appropriate in this case.

Further, regarding the Commission's definition in *Rexam/ANC* a commentator should also have to take into account the applicable market test. The dominance test, which was applied in this case, relies on high market shares for establishing competitive harm and therefore a narrow relevant market would be useful because it would produce high market shares. On the other hand, the US SLC test or the new SIEC test of the ECMR, which can establish competitive harm also in situations beyond dominance and are therefore less reliant on market shares, a broad definition in *Rexam/ANC* would not have been a problem. This partly answers also the question raised above on the applicable methodology in market definition.

Lastly, supposing that merger simulation had been applied in *Rexam/ANC* the situation would have been as follows: The simulation would have sought to estimate the price effect of *Rexam/ANC* merger on can, PET and glass prices using historical

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[76] See F.M. Scherer and David Ross, *Industrial Market Structure and Economic Performance*, (3rd Ed.) Houghton Mifflin Company, 1990, at 181-184.

[77] The rapid technological progress refers to the more expensive commodity, which in this case was plastic. Such a progress can lead to lower costs, and thus prices, for plastic, which in turn will bring it closer to glass.

[78] The idea is that supply fluctuations affect product prices, which under certain circumstances can also bring the two products closer.

price data or other information[79].The calculation would have taken into account the interaction between cans, PET and glass through the use of multiple own-price and cross-price demand elasticities. Thus, having calculated the "precise" price effect of the merger, the market definition would have little significance. If the merger had been found likely to raise prices, competition authorities would have had to take action to eliminate this risk through remedies otherwise they would have had to block the merger.

However, as mentioned above, simulation has its own limitations, which include amongst others the reliance of the models on past data for predicting future prices, which entails some risks since it does not take into account all market dynamics[80] and/or imperfections[81] that could arise out following the merger. Further, issues of data availability as well as the product and market parameters used in the model could raise additional obstacles for carrying out a reliable simulation[82]. In any case it is submitted that if the application of merger simulation in this case had confirmed the Commission's views, this would have been an additional strong argument in favour of the latter. Conversely, if the application of the simulation had shown that PET and glass sufficiently constrained can price-rises, then the Commission might have had to reassess its views, but taking also into account all the other available evidence. Merger simulation alone would not have been sufficient to justify the adoption of a different approach[83].

b. Can sizes

The Commission's decision to include all can sizes in a single product market and exclude only slim cans will not be discussed further because it did not give rise to issues that are of interest here.

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[79] Issues of merger simulation were discussed above.
[80] See also Rill *op.cit.*31.
[81] A list of market imperfections could include amongst others the following situations: 1. Consumers may exhibit irrational behaviour, 2. Producers may exhibit irrational behaviour, 3. There may be large uncertainties, which interfere with rational and consistent decisions by consumers and/or producers, 4. Lags may occur in the decisions and/or actions of consumers or producers, 5. Consumer loyalties may exist, 6. The segmenting of markets may be accentuated and exploited, 7. Differences in Access to information, including secrecy, 8. Barriers against new competition, 9. Transactions costs and excess capacity may be significant, 10. Internal distortions in information, decision-making and incentives may cause x-inefficiency and distorted decisions (see George B. Shepherd, Joanna M. Shepherd and William G. Shepherd "Antitrust and Market dominance", *Antitrust Bull.*, 2001, 835, at 843-844).
[82] See also Rill *op.cit.*31.
[83] As mentioned in the analysis for merger simulation above, it seems that the most appropriate use of merger simulation at the moment is as an additional tool of structural analysis rather than as an alternative to the latter (see also Epstein and Rubinfeld *op.cit.*34).

c. Aluminium versus steel cans

The Commission's decision to include aluminium and steel cans in the same product market was based on the following market factors amongst others: a high price correlation; almost identical end-users' and consumers' perceptions; a cost difference of producing aluminium and steel cans less than 2%[84].

This thesis will focus particularly on price correlation, which is another test proposed by economic theory for defining markets. The test is designed to measure the correlation of prices between two allegedly substitute products[85]. The higher the degree of correlation, the more likely is these products to be included in the same product market[86].

However, even when the prices of two products are perfectly correlated this does not mean that these products should necessarily be included in the same market for antitrust purposes. This is so because price correlation does not prove the existence of constraining influence of the one product on the other. In other words perfect price correlation does not indicate the existence of perfect substitutability between the two products[87].

However, the absence of any price correlation between two products is an indicator that these products are not in the same market[88], but competition authorities should be cautious because the absence of any price correlation in the past does not preclude the existence of such correlation in the future[89]. In any case, price correlation is a useful test whose results should be examined along with the other evidence, and it is by no way conclusive about the extent of the market for antitrust purposes.

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[84] Commission's decision para.10.

[85] See George Stigler and Robert Sherwin "The Extent of the Market" 28 *J.L. & Econ.*, 1985, 555; Bishop and Walker *op.cit.*19, at 11.01-11.45; Joseph J. Simons and Michael A. Williams, "The Renaissance of Market Definition" *Antitrust Bull.*, 1993, 799, at 851, 852.

[86] The method usually involves the estimation of a correlation coefficient of price movements, price changes or the length of price changes. The correlation coefficient by definition lies between –1 and +1. When the coefficient is +1, 100% of the variation of the one product is explained by the variation of the other product. Conversely when the coefficient is –1, 100% of the variation of the one product is explained by the *inverse* variation of the other product, while when coefficient is 0, 0% of the variation of the one product is explained by the variation of the other product. See also Stigler and Serwin *ibid.*; Bishop and Walker *ibid.*

[87] See also Bishop and Walker *ibid.*; Simons and Williams, *op.cit.*86, at 851-852.

[88] See European Commission's decision in *Mannesmann/Vallourec/Ilva* (Case No IV/M.315 [1994] OJ L102/15; [1994] 4 CMLR 529, para.32); also Simons and Williams *op.cit.*86, at 852; also Stigler and Serwin *op.cit.*86.

[89] Simons and Williams *op.cit.*86.

The Commission has thus far examined the results of price-correlation tests in several merger cases[90], but has not taken them into account in its final decision in all these cases.

In *Rexam/ANC* price correlation analysis concerned the sets aluminium cans/steel cans, aluminium cans/aluminium sheet, steel cans/steel sheet[91]. Aluminium and steel sheet are the materials used for the production of the respective cans. The Commission examined price correlation for 33cl and 50cl beverage can in several European countries and concluded that there existed a high level of correlation between aluminium and steel beverage cans and also between steel cans and steel can sheet, while the opposite was true for the third set aluminium can/aluminium can sheet. The lack of correlation in the latter set was due to the high volatility of the price of aluminium can sheet. The Commission considered that the inability of aluminium can suppliers to pass onto buyers increases in aluminium price indicated the existence of another product, which was actually competing in the same product market and which was having sufficient constraining power. This product was obviously steel, which was the closest to aluminium. However, price correlation could not exclude the existence of constraining power also by other products, such as PET and glass.

In support of its price correlation results the Commission stressed that there existed only a limited number of situations where steel and aluminium were not good substitutes for one another. It also referred as shown to identical end-user's and consumers' perceptions.

The Commission's decision to include aluminium and steel cans in the same market was fully reflective of the market realities, according to which there is a long-history of tough competition between the two products for market shares[92].

7.2.3 Conclusions about product market definition

[90] By way of example in *UPM-Kymmene/Haindl* (Case IV/M.2498, Decision of 21-11-2001) the Commission used price correlation results to support its argument that wood-free coated reels (WFC) were not part of the overall magazine paper market. In *Danish Steff-Houlberg* (Case IV/M.2662, Decision of 14-2-2002) the parties presented price correlation analysis in support of their argument that the geographic market for the purchase of live pigs for slaughtering was not national but Northern European (including Denmark, Sweden, Northern Germany and the Netherlands). The Commission accepted that the data provided by the parties showed that correlation existed, but it stressed that at the same time, major differences occurred. Firstly, it considered that the amount of data was not robust for a correlation test. Secondly, that there were in existence big differences in correlation across Member States, which were making the analysis impossible to rely on. Case No IV/M.315 *Mannesmann/Vallourec/Ilva* [1994] OJ L102/15; [1994] 4 CMLR 529.

[91] Paragraphs 11, 12 of the decision.

[92] See also Solman *op.cit.*56.

This thesis used *Rexam/ANC* to present and discuss some aspects of the problem of market definition when differentiated products are involved. What could be inferred as a conclusion from the discussion is that market definition in such cases is sensitive to the applicable methodology and therefore different methodologies could result in different definitions. Moreover, the applicable market test plays also an important role. The Commission's old dominance test was dependent on high market shares and therefore the Commission's relatively narrow definition in *Rexam/ANC* was explicable. However, the new substantive test of the Merger Regulation, which captures also situations of non-collusive oligopolies does not require high market share levels for finding competitive harm and thus the role of structural analysis based on market shares is inevitably weakened. This means that the need for narrow product markets will be reduced. The new test is better positioned against the competitive conditions arising from mergers involving differentiated products, where the market is broad but the existence of differentiation allows the exercise of unilateral market power.

Regarding the Commission's methodologies in *Rexam/ANC* the application of the vigorous SSNIP test was a strong point in the Commission's definition. However, the use of SSNIP alone might not have been the most appropriate approach to the market definition in this case, since the test examines product substitution in response to price rises, whilst competition between cans, PET and glass, as the Commission itself found, was affected by non-price factors. For this reason it was submitted that along with the SSNIP test the Commission should have taken into account also non-price factors in its analysis. However, the Commission's decision referred also to previous case-law, namely the Commission's decision in *VIAG/Continental Can,* in which non-price factors had been examined and led to the same conclusion.

Lastly, the use of econometrics through price-correlation estimates along with other market and product factors for including aluminium and steel can in the same product market offered credence to the Commission's decision, even if price correlation has its own limitations, which do not render it completely sufficient for defining markets.

7.3 The relevant geographic market

The Commission, found that the geographic market was regional[93] on the basis of the demand structure, which had strong regional aspect (flat demand growth in Northern Europe, but constantly increasing demand in Southern Europe; customer needs, which required relatively close geographic relationship with suppliers); the structure of supply (suppliers adapt to the needs of demand) and the existence of trade flows between areas also indicated regional markets. These findings were further reinforced by the existence of significant transportation costs for long distance deliveries (5% of the total beverage can price for a distance up to 500km and about 10% or more for a distance up to or above 1000km)

The Commission finally focused on two regional markets where anticompetitive effects, as a result of the merger, would arise: that of Southern Europe (Spain, Portugal, Italy, Southern France) and that of Northern Europe (Germany, Austria, Northern France, Benelux, UK).

The Commission's decision on the geographic market did not give rise to significant issues. The argument that competition in the beverage can market was regional in nature seemed justified and this will become clear also from the analysis of the competitive effects below. What one could note on the Commission's definition is that it was not based on vigorous economic methodologies as the product market definition was (SSNIP and price correlation).

7.4 Duopolistic dominance in the Northern European market of beverage cans.

The Commission considered that the *Rexam/ANC* merger would result in a duopoly held by the merged entity and Continental Can Europe (CCE), in the Northern European market of beverage cans.

The Commission relied on the following market factors[94]:

a. Flat growth trend;

b. Highly concentrated market (only four competitors *ex ante*);

c. Generally homogeneous product in an industry that is not characterised by any high level of technical change and thus competition takes place only at the level of price;

d. Transparent market;

[93] See paras.14-20 of the decision.
[94] Paras.23-24 of the decision.

e. The prices charged by Rexam, ANC and CCE were relatively similar;
f. The overcapacity in Northern Europe was equally divided between the merging firms and CCE;
g. Both firms had symmetrical market shares (35%-45% each) in terms of capacity and identical cost structures;
h. The substantial and symmetric overcapacity limited the incentives for deviation and helped to maintain high collusive prices;
i. The existence of spare capacity constituted a credible punishment threat against potential mavericks. The only existing competitor beyond the duopolists, Carnaud-Metallbox, was capacity-constrained and could not threaten the duopoly.
j. There were in existence in the market significant entry barriers, which prevented any threat to duopoly by new entry[95].

7.4.1 The doctrine of oligopolistic dominance in EC merger control: some observations.

The *Rexam/ANC* merger resulted in a reduction in the number of competitors from four to three in Northern Europe. Another four-to-three merger was that of *Airtours/First Choice*[96], whose review by the Commission resulted in controversy about the scope of the latter's collective-dominance doctrine and particularly about whether non-collusive oligopolies fall within the scope of that doctrine or not. The *Airtours/First Choice* decision was appealed by the parties to the CFI. The CFI, after clarifying the legal criteria for collective dominance and rejecting the Commission's analysis for failing to meet these criteria, annulled the latter's decision to prohibit the merger. The CFI decision became the main reason for the adoption of a new substantive test in the Merger Regulation, which seeks to deal more effectively with oligopolies, particularly the non-collusive ones which did not appear to be covered by the dominance test. The analysis of *Rexam/ANC* will therefore be used for discussing issues relating to collusive and non-collusive oligopolies -the two types of anticompetitive oligopolies- and their treatment in EC merger control. The analysis of the market criteria indicating risks of collusion (coordinated interaction) was made in detail in previous chapters. In this chapter the focus will be mostly on the legal test

[95] Paras.27-28 of the decision.
[96] Case IV/M.1524 OJ [2000] L93/1, [2000] 5 CMLR 494.

and on proving why the Commission's doctrine on oligopolies as applied under the dominance test needed reform. The analysis will also explore the changes imposed on merger analysis by the new substantive test of the Merger Regulation, which replaced the dominance test, as well as on issues of practical application of the new doctrine on non-collusive oligopolies. But first, some preliminary comments should be made:

The CFI decision in *Airtours v. Commission*[97] was particularly important for clarifying the legal criteria of establishment of tacit collusion under the concept of collective dominance. In particular, the Court set out three legal conditions for establishing a collective dominant position. These conditions were based on the conventional economic theory of tacit collusion[98]:

a. Each oligopoly member must be able to monitor the behaviour of the other members, which requires sufficient market transparency;

b. The situation of tacit coordination must be sustainable over time, which requires the existence of adequate retaliation to ensure that the oligopoly members do not deviate from the common policy; and

c. The foreseeable reaction of current and future competitors and consumers must not jeopardise the results expected from the common policy.

The Court's conditions were generally in line with its previous decisions in *Kali&Salz*[99] and *Gencor*[100], in which tacit collusion had also been examined. In *Kali&Salz* the ECJ indicated that collective dominance was referring to the ability of the undertakings concerned to *adopt a common policy* on the market[101], while it left the impression that proof of the existence of strong structural links between the undertakings was required for meeting the legal standard[102]. In *Gencor* the CFI went further by clarifying that structural links were not required and that the links between the firms could be 'merely' economic meaning that they could be a consequence of the economic conditions holding in the market. As a result, collective dominance issues could arise from a merger likely to lead to a market structure conducive to tacit

[97] Case T-342/99 [2002] ECR II-2585, [2002] 5 CMLR 494.
[98] Para.62 of the decision.
[99] Cases C-68/94 and 30/95 *France v. Commission* [1998] ECR I-1375, [1998] 4 CMLR 829.
[100] Case T-102/96 *Gencor v. Commission* [1999] ECR II-753, [1999] 4 CMLR 971.
[101] Para.221 of the Decision. However the Court in this case repeating its previous rulings in cases under Article 82, particularly in "Italian Flatglass" (Joint Cases T-68, 77 and 78/89 *Societa Italiana Vetro Spl v. Commission* [1 992] ECR II-1403 at [358], [1992] 5 CMLR 302) and in "Almelo" (Case C-393/92 *Almelo v. NV Energebedof Ivsselimij* [1994] ECR I-1477 at [42].
[102] See D.G. Goyder, *EC Competition Law* (4th Ed.), 2003, at 366; Ali Nikpay and Fred Houwen "Tour de Force or a Little Local Turbulence? A Heretical View on the Airtours Judgment" 24 *E.C.L.Rev.* 2003, 193, at 197.

coordination[103]. The decision in *Airtours,* by clarifying the relevant market criteria for establishing collective dominance, also confirmed this *Gencor* ruling. As a result, a basic contribution of the *Airtours* to the issue of collective dominance was that it synthesised existing case-law by making clear that tacit coordination constituted the essence of the collective dominance concept under the Merger Regulation and by setting out the relevant legal criteria of proof[104].

Further, the Court rejected the Commission's competition analysis of collective dominance in *Airtours/First Choice*[105], which appeared to have been based not on tacit coordination but on unilateral behaviour by oligopolists, the so-called "non-collusive oligopoly". Central points of concern included the Commission's reference to individual actions by oligopolists rather than to tacit coordination and the fact that the Commission seemed to argue that a punishment mechanism was not necessary for collective dominance.[106] Although other views suggested that this case was not about non-collusive oligopoly and that tacit collusion instead had been the issue for the Commission[107], the Court's rejection of the Commission's analysis and its references only to tacit collusion, were seen as a denial of the possibility cases of non-collusive oligopolies falling within the scope of the collective-dominance doctrine of the Merger Regulation[108]. As a result, even if the issue of the treatment of non-collusive oligopolies in the context of EC merger control has never been directly debated in the Court, the decision in *Airtours* showed that there was a need this issue to be clarified. The Commission's initiative to amend the substantive test of Merger Regulation in order to remove the uncertainty and solve the problem was therefore something which had to be expected[109]. The new significant-impediment-to-effective-competition (SIEC) test without abandoning the dominance concept paves the way for the

[103] See also Richard Whish, *Competition Law,* (5th Ed.) Butterworths, 2003, at 536.
[104] See also *ibid.* at 540; also Nikpay and Houwen *op.cit.*102, at 198.
[105] Case IV/M.1524 OJ [2000] L93/1, [2000] 5 CMLR 494.
[106] see also Whish *op.cit.*103, at 536-538.According to Massimo Motta the Commission's analysis in this case extended the use of the collective dominance concept to capture a situation being closer to unilateral effects (non-collusive oligopoly) rather than coordinated effects (see Massimo Motta "EC Merger Policy and the Airtours Case" 21 *E.C.L.Rev.* 2000, 199, at 207).
[107] See Peder Christensen and Valerie Rabassa "The Airtours Decision: Is There a New Approach to Collective Dominance?" 22 *E.C.L.Rev.* 2001, 227, at 237; also Nikpay and Houwen *op.cit.*103, at 202.
[108] According to Whish *op.cit.*103, at 537, the CFI's decision indicated that the concept of collective dominance could not be stretched so far as to include non-collusive oligopolies. Similarly Motta *op.cit.*106, at 207, stressed that the fact that Merger Regulation did not cover unilateral effects rendered the Commission's decision in *Airtours*, by relying on the concept of collective dominance, controversial. See also Sven B. Volker "Mind the Gap: Unilateral Effects Analysis Arrives in EC Merger Control" 25 *E.C.L.Rev.* 2004, 395, 408.
[109] This is clearly visible in the New Merger Regulation where in Recital 25 of the Preamble it is stated that "interests of legal certainty" required making clear that the Merger Regulation covers also "anticompetitive effects...resulted from the non-coordinated behaviour of undertakings which would not have a dominant position on the market concerned".

examination in the context of merger control also of non-collusive oligopolies, which are situations harmful to competition without giving rise to dominant positions[110].

The views of this thesis about the developments in the law are as follows:

First, it is submitted that the Commission's initiative to adopt a new substantive test must be applauded not so much because the new test removes a legal uncertainty but because it makes clear that all cases of competitive harm arising from mergers are covered by the Merger Regulation and, thus, that no anticompetitive merger will escape scrutiny. It is submitted that since the ultimate objective of EC merger control is the protection of consumer welfare through the maintenance of effective competition in the Community[111], the Commission should be given clear authority to deal with all types of anticompetitive effects arising from mergers.

In this sense it is of only secondary importance whether the legal construct for achieving the objective of the protection of consumer welfare would be the dominance test, the SIEC, the SLC or any other test. It is well known that these legal constructs do not reflect any specific economic theories but only set the legal standards against which mergers are assessed. Thus, legislature and courts are always in position to expand or narrow the scope of these constructs by shifting the legal standards, so as to accommodate more or fewer categories of competitive effects[112]. It is therefore not so important that the Commission had to change the substantive test of Merger Regulation in order to include in the scope of the latter non-collusive oligopolies, which were not clearly covered by the dominance test, even if the interests of legal certainty, which were proposed as the basic reason for the change, could not be ignored.

Further, economic theories on unilateral effects clearly suggest that in certain oligopolistic markets with low risk of tacit collusion firms are nevertheless capable of harming consumers by unilaterally raising prices above the competitive level[113]. Thus, effective merger control requires including also these cases within its scope.

Second, it is submitted that the dominance test as applied by the Commission had insufficiently narrow scope even if Competition Commissioner Monti had once argued that that test, properly interpreted, was capable of dealing with the full range

[110] See *Ibid.*
[111] On this issue see also in the first chapter where the basic objectives of EU merger control are presented and analysed.
[112] See also in the chapter of the thesis dealing with the US decision about SGA market where comparisons between the dominance and the US SLC test are made.
[113] About unilateral effects see also below in the analysis of beverage can market.

of anticompetitive scenarios arising from mergers[114]. In particular, the practical application of the test by the Commission seemed to raise barriers, which prevented substantive control not only of non-collusive oligopolies but potentially also of certain types of collusive oligopolies. The latter conclusion could be inferred from the fact that the concept of collective dominance has traditionally been applied to duopolies[115].

The exclusion of non-collusive and potentially of certain types of collusive oligopolies is not, however, surprising if it is taken into account that the standard of proof of competitive harm under the collective-dominance concept is high and therefore does not cover all types of oligopolies. In particular, according to the traditional interpretation of collective dominance by the Commission, the concept applies to cases where the merger results in a situation of tacit collusion between two (and rarely more than two) firms holding dominant market shares[116]. However, proving tacit collusion is often a hard task, because the existence of monitoring and punishment mechanisms has to be shown[117], while the requirement of dominant market shares seems to exclude situations of tacit collusion involving also firms with

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[114] Mario Monti "Merger Control in the European Union: a Radical Reform", Speech in the IBA Conference on European Merger Control, Brussels, November 7, 2002.

[115] The Commission has examined oligopolistic markets involving more than two firms in several cases (e.g. Case IV/M.484 *Krupp/Thyssen/Riva/Falck/Tadfin/AST* [1995] OJ L251/18 (duopoly or five-firm oligopoly in cold-rolled stainless steel flat products); Case IV/M.942 *Veba/Degussa* [1998] OJ L201/102 (three-firm oligopoly in diamines/polyamines). A rare case where the Commission considered collective dominance of between three and five players was *Exxon/Mobil* (Case IV/M.1383, (1999) 5 CMLR 959) concerning the market of motor fuel retailing. In that case the Commission imposed conditions for clearing the merger. Also the *Time Warner/EMI* merger (Case IV/M.1852) was abandoned after the Commission raised concerns about the establishment of coordinated effects in the market post-merger. The merger would reduce the number of competitors from 5 to 4.

The Commission's hesitance in establishing collective dominance in situations involving broad oligopolies can be seen in its decision in *Price Waterhouse/Coopers & Lybrand* (Case IV/M.1524 [1999] 4 CMLR 665) where the Commission stated: "From a general viewpoint, collective dominance involving more than three of four suppliers is unlikely simply because of the complexity of the interrelationships involved and the consequent temptation to deviate; such a situation is unstable and untenable in the long term".

[116] According to Navarro *et al, op.cit.*6, at 7.58, prior to the *Airtours/First Choice* the Commission's prohibitions on grounds of collective dominance were referring to duopolies and their common feature was that the merged entity and a third firm had a joint market share of more than 50%-60% of the relevant market and the rest of the suppliers in that market had significantly lower market shares.

[117] See also Motta *op.cit.*106, at 199. One recent Commission decision, which demonstrated the difficulties often associated with proving the existence of collusion mechanisms, was *SONY/BMG* (Case COMP/M.3333, Decision of 19/7/2004). In that case the Commission found that the merger would reduce the number of major players in music industry from 5 to 4, while an analysis of a large amount of price data and third-party submissions in the recorded music markets of the different EEA countries indicated a relatively close price parallelism for CDs released by the five majors in some countries as well as certain features that could facilitate tacit collusion. However, and despite these finding, the Commission refrained from establishing collective dominance because it found that the level of transparency in the market was not sufficient to facilitate successful coordination.

These problems of proof are according to a view also a basic reason behind the Commission's traditional preference to duopolies for establishinh collective dominance since it is easier to prove the existence of collusion mechanicms by two firms instead of three or more (see "The Airtours Judgment: A Welcome Lecture on Oligopolies, Economics and Joint Dominance" 10 *Colum. J. Eur. L.* 2004, 105, 115).

low or asymmetric market shares[118] or situations of unilateral effects where the unilateral exercise of market power is possible without the existence of dominant market shares or monitoring and punishment mechanisms[119].

The excluded cases, however, concern situations of competitive harm well-established in economic theory. The traditional Commission's unwillingness to effectively include them into the scope of merger control meant that the Commission's obligation to protect effective competition and consumers in the Community from harmful corporate reorganisations may not have been fully fulfilled.

Third, the inclusion of non-collusive oligopolies in the scope of the market test of the ECMR was therefore a necessary step for closing an existing gap in the application of merger control, while the broadening of the scope of the substantive test of the ECMR will remove also certain inflexibilities in the application of the Commission's doctrine on tacit collusion[120].

Lastly, the fact that the Commission's intervention in mergers will be increased after these developments should not in the thesis's view be seen as a hostile move

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[118] The case of SGA market could be used as an example. As shown in chapters 4 and 5 *Alcoa/Reynolds* was a merger reducing the number of large competitors to five, while the market concentrated a number of factors indicating increased risk of collusion. Also, in that market the distribution of market shares between the oligopolists was uneven: there was one large firm, Alcoa, with market share above 40%, and four other firms with market share less than 12% each. For this market as shown the Commission focused only on single-firm dominance, while the US decision emphasised also the risk of collusion.

In general, there has been thus far no case where the Commission established collective dominance on the basis of tacit collusion by four or five firms even if, as the case of SGA showed, economic theory has proved that the formation of such a collusive oligopoly is feasible and sensible (see also Navarro et al. op.cit.6, at 7.62-7.63).

[119] The broadly-used example of unilateral effects is that of a merger which creates the second largest player in a market, which does not exhibit high level of concentration or other features that would facilitate the establishment of tacit collusion risk.

One such case was that of *Heinz/Beech-Nut* (Case *FTC v. H.J.Heinz Co.*, 246 F.3d 708 D.C. Cir. 2001) in the US. The merger involved the number two and three producers of baby food and created the second largest firm behind Gerber the clear leader with 65% market share. A similar merger in Europe would not have been considered under the single-dominance test, while the possibility would have been only for collective dominance if the relevant market criteria had been met.

[120] Even if the Commission in its market investigations examines all types of oligopolies regardless of the number of the participating firms, this does not alter the thesis's view that the Commission's policy, which focuses mostly on duopolies, is insufficient. This is so because from a competition perspective the situation between a duopoly and a collusive oligopoly by, let us say, five firms is completely different:

If the source of collusion lies only on the relationship between the duopolists, all that competition authorities have to do to restore competition is to sever ties between the two firms, mostly through divestitures, which intend to harm symmetry between them. If, on the other hand, collusion is possible for reasons relating, apart from the duopolists, also to the remaining three competitors, then competition authorities have to take broader measures to sever ties between all five firms even if the three of them have low market share.

The Commission's preference, through duopolies, only to the market leaders is based on the idea that asymmetries in market shares between large and small firms undermines the stability of an oligopoly involving both large and small firms (see also Navarro et al. *op.cit.*6, at 7.140) On the other hand, the existence of symmetry in market shares between the two leading firms makes collusion between these firms easier. This theory, as will be explained below, is valid, but, on the other hand, symmetrical oligopolies do not cover only cases with symmetrical market shares but also other factors, such as symmetrical costs and/or prices, and in this sense smaller firms could also be involved.

For these reasons it is submitted that the Commission should consider cases involving oligopolies with open mind, without adherence to mechanistic policies, and having always in mind that its ultimate target is the protection of effective competition and consumers.

against mergers because it is motivated by the need to more effectively protect competition, which is in no way incompatible with merger activity. Besides, even under the new test, the EC merger control in terms of scope will still be generally in line with the merger-control regimes in other jurisdictions, particularly in the US where situations such as non-collusive oligopolies and all cases of tacit collusion are explicitly covered.

7.4.2 Duopolistic dominance in Rexam/ANC

The Commission's analysis in *Rexam/ANC* focused only on the creation of duopoly by the merged entity and CCE in the market of Northern Europe and excluded from the collusive oligopoly Carnaud-Metalbox, the only competitor remaining in the market apart from the duopolists. This thesis will show that it can be argued that Carnaud-Metalbox could have also been included in the collusive oligopoly and that, therefore, the Commission's decision was not fully appropriate. The thesis will also use the beverage can market to analyse in the next section of this chapter, the application of the new non-collusive-oligopoly doctrine and discuss its utility for EC merger control.

For establishing collective dominance (duopoly) by the merged entity and CCE the Commission relied on the checklist of market factors normally used in such cases. For beverage cans these factors included, flat growth trend, homogeneous product, transparent market, symmetrical market shares, identical costs and prices, sufficient overcapacity for retaliation purposes, and inability by competitors outside the oligopoly to effectively challenge the duopolists.

The Commission's analysis was not very detailed but nevertheless established the main conditions of tacit collusion, which were later confirmed by the CFI in *Airtours*[121]. In particular, the analysis proved the existence of sufficient market transparency to safeguard monitoring between the duopolists; the existence of a credible punishment mechanism (overcapacity equally shared between the duopolists), which safeguarded the sustainability of the duopoly; and the inability of the existing competitor, Carnaud-Metalbox, and potential new entrants to threaten the duopolists.

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[121] See in the previous section.

Regarding Carnaud-Metalbox, the Commission considered that the firm was not a source of competition to the duopoly because of its capacity constraints[122]. However, the Commission's argument could not preclude the possibility that Carnaud-Metalbox could also become member of the collusive oligopoly. It is submitted that there was available market evidence supporting the inclusion of Carnaud-Metalbox in the oligopoly.

In more detail, capacity constraints reduce retaliation capabilities, thus discouraging collusion but, on the other hand it has been proved that such constraints also limit deviation incentives thus helping the stability of the oligopoly[123]. In this context, capacity-constrained Carnaud-Metalbox, being unable to increase its sales through deviation, would have good reasons to seek the highest possible prices for its existing sales. Higher prices would be easier achieved through coordination with the duopolists rather than through unilateral action, particularly, since the duopolists by controlling considerable overcapacity would cancel any attempt by Carnaud-Metalbox to raise prices.

In the duopolists' side, they would control post-merger a combined market share of approximately 80%, which along with their considerable overcapacity would enable them to act independently from Carnaud-Metalbox and to discipline each other. However, the duopolists, it is submitted, would not have good reason to compete aggressively against Carnaud-Metalbox because starting a price war to reduce the latter's market share or to force it to the exit would be very costly for the duopolists: the decrease in prices would squeeze their margins on the large market share they already possessed[124]. Moreover, the results could be poor because Carnaud-Metalbox was not a weak firm, since it was controlled by the US Crown Cork&Seal, which, like *Rexam/ANC*, was one of the top can manufacturers in the world and was

[122] See para.24 of the decision.

[123] See also Marc Ivaldi, Bruno Jullien, Patrick Rey, Paul Seabright and Jean Tirole "The Economics of Tacit Collusion" Final Report for DG Competition, European Commission, 2003, at 41; Olivier Compte, Frederic Jenny and Patrick Rey "Capacity Constraints, Mergers and Collusion" 46 *European Economic Review*, 2002, 1, at 2; Europe Economics "Study on Assessment Criteria for Distinguishing Between Competitive and Dominant Oligopolies in Merger Control" Final Report for the European Commission Enterprise Directorate General, May 2001, at 34.

[124] Massimo Motta examines a similar market situation where a firm holding 70% of the market competes against a firm with 30%. He concludes that the large firm would have little interest to deviate for the same reasons. He further shows that the large firm would also be less keen on punishing after a deviation by the small firm, because again the loss from squeezed profits in the existing sales, would exceed the profits caused by the regained market shares after the punishment was successful. According to Motta, the small firm could exploit this opportunity for successfully deviating, thus capturing additional market share. (See Massimo Motta "Economic Analysis and EC Merger Policy" *EUI Working Papers*, 2000, 1, at 21). However, concerning Carnaud, such a strategy could not be successful because the firm was capacity constrained.

competing against the merging firms also in the US market[125]. Thus, Carnaud-Metalbox was capable of defending its market position. However, since the firm was capacity-constrained, it could not pose significant threat to the duopolists either and therefore it would be reasonable to believe that some form of consensus could be reached between the three firms.

Further, symmetry, a factor generally facilitating collusion[126], concerns not only symmetry in market shares but also in areas such as costs and prices[127], while, conversely, asymmetry in market shares is not in itself incompatible with tacit collusion[128]. Thus, the existence of symmetry in market shares in terms of capacities and overcapacities between *Rexam/ANC* and CCE but not between these two firms and Carnaud-Metalbox, did not necessarily prove that the latter could not become a member of the oligopoly.

Regarding symmetry in costs and prices, the Commission's analysis stressed that Rexam, ANC, and CCE pre-merger were selling cans at relatively similar prices, which along with similarities in capacity and capacity utilisation and the fact that these firms were profit maximisers, indicated also the existence of symmetrical costs[129]. However, Carnaud-Metalbox could have also been in the same situation as the other three firms. According to the thesis's investigation[130], the typical operating margins in the consumer packaging industry, whose part is beverage can production, are generally within the range 8%-11% with a high level of sustainability. Also market reports collected by the thesis[131] consider a single production cost for beverage cans meaning that there are no major cost differences between the producers, while the annual reports of Crown Cork&Seal[132], the parent company of Carnaud-Metalbox,

[125] Crown Cork & Seal, Rexam/ANC and Ball, are the largest world players in beverage can market.
[126] Case T-102/96, *Gencor v.* Commission [1999] ECR II-753, para. 222.
[127] See also Massimo Motta *op.cit.*124, at 21; Bishop and Walker *op.cit.*19, at paras 7.41, 7.42. The Commission' s Guidelines on the assessment of horizontal mergers in para.48 clearly state that symmetry between firms refers to factors, such as cost structures, market shares, capacity levels, and vertical integration.
[128] See the European Commission's decision in *Exxon/Mobil* decision (Case IV/M.2383, Decision of 3.2.1999, para.477); Ivaldi et al. *op.cit.*123, at 15.

The Commission, despite its often reliance on symmetrical market shares for establishing tacit collusion, has itself also recognised that this factor is not always so important (see OECD Report "Oligopoly of 19-Oct-1999, at 218, where the Commission states: "...market shares do not need to be completely symmetric in order for oligopolistic dominance to take place. It is quite conceivable that a merger will lead to one or more oligopolists being stronger than the other members in the oligopoly. In some situations there will even be a leader of the oligopoly. The important issue in the assessment of the symmetry of market shares is whether the market shares indicate a sufficient degree of similarity in incentives and retaliation possibilities").
[129] Para.24 of the decision.
[130] See the Annual Report of Rexam for the fiscal year 2000, at page 42, available at www.rexam.com
[131] See e.g. the report of Can Makers UK where production costs of cans and PET are compared (available at http://www.canmakers.co.uk/industry/direct_product_reliability.asp)
[132] The annual reports of the firm are available at www.crowncork.com

indicate that the firm's operating margins in Europe are nearly identical to those of Rexam. Lastly, according to the Commission, the industry does not demonstrate any high level of technological change meaning that all the firms use more or less the same technology and there are no cost differences on such grounds. All the above evidence indicate that symmetry in costs and prices existed not only between the duopolists, but also between the latter and Carnaud-Metalbox, which reinforces the potential of collusion post-merger by all three firms.

On the issue of symmetry, the examination of efficiencies would also offer useful evidence because efficiencies can either increase or reduce symmetry between firms. For instance, if the efficiencies produced by the merger lead to lower costs and larger capacity thus giving to the merged entity cost advantages against its competitors, then the merging entity may have more interest in deviating from the collusive oligopoly than in following it[133]. On the other hand, efficiencies may also lead to more symmetrical costs between the merging firm and its competitors and in this case the risk of collusion increases[134].

In *Rexam/ANC*, the Commission did not refer to the efficiencies likely to be produced by the merger. However, as will be shown below, the merger was not expected to create significant efficiencies in Europe and therefore the symmetrical conditions between the merged entity and its competitors would not be harmed for this reason.

Further, the Commission's analysis referred to the existence of sufficient transparency in the market to safeguard effective monitoring. In particular, the Commission said that all four firms pre-merger were taking part in several tens of tenders under which the majority of cans were sold[135]. The contracts signed under these tenders were usually for a period of one year. According to the Commission, the frequency and regularity of the bids, coupled with the feedback that suppliers received from tendering customers, enhanced market transparency, because can manufacturers became aware of the winner of the bid, the proposed price, the identity of the purchaser and the quantities involved in the tender[136]. However, Carnaud-Metalbox was also one of the firms taking part in the tenders and therefore it is reasonable to

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[133] See also Bishop and Walker *op.cit.*19, at paras.7.49-7.50; also Motta *op.cit.*125, at 22. This is also confirmed by the Guidelines on the assessment of horizontal mergers in para.82.
[134] See also Motta *ibid.*
[135] Para. 24.
[136] *Ibid.*

assume that the firm could be involved also in the process of exchanging information and monitoring. Thus, market transparency was facilitating the inclusion of Carnaud-Metalbox in the collusive oligopoly.

Further, the level of concentration in the beverage can market would be significantly increased post-merger since the number of competitors would be reduced from four to three[137]. Even if, according to the Commission's decision-making practice, there is no presumption of illegality based solely on market shares or concentration of supply[138], these factors can nevertheless become important if combined with other market features indicating also collusion risks. Economic theory has well established that a highly concentrated market enhances interdependence between the firms thus making coordination easier[139]. Thus, the high concentration levels post-merger in the beverage-can market indicated high collusion risk, which also involved Carnaud-Metalbox.

Lastly, another important detail, further strengthening the potential of tacit collusion involving all firms, is that beverage cans are not just homogeneous but also standardised products concerning their physical characteristics[140] and potentially prices. Standardisation reduces the dimensions of competition between products[141], thus increasing product homogeneity and market transparency[142].

About prices particularly, one form of their standardisation is through the adoption of identical pricing formulas by suppliers[143] or at least when suppliers have common knowledge of all the variables in the formulas. For instance, when firms have similar or identical costs all pricing formulas could have the form "cost plus a percentage"

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[137] This impact of the merger on concentration will be analysed in more details in the analysis of non-collusive oligopoly below.
[138] See also Navarro et al. *op.cit.*6, at 7.49.
[139] See also Europe-Economics *op.cit.*123, at 21-22; Ivaldi et al. *op.cit.*123, at 12-14.
[140] See ANC's SEC report *op.cit.*57.
[141] Other areas of standardisation include the trade terms, freight formula etc.
[142] See also Europe-Economics *op.cit.*123, at p.43; Donald Clark "Price-Fixing Without Collusion: An Antitrust Analysis of Facilitating Practices after Ethyl Corp." *Wi.L.R..*, 1983, 887, at 935-936. According to Phillip Areeda product standardisation "might deprive some consumers of a desired product, eliminate quality competition, exclude rival producers, or facilitate oligopolistic pricing by easing rivals' ability to monitor each other's prices" (Phillip Areeda *Antitrust Law,* 1986, at para.1503a).
[143] The Commission Guidelines on the assessment of horizontal mergers (para.47) provide two examples related to the establishment of simple pricing rules as a means to facilitate collusion. The first example concerns the establishment of a small number of pricing points, thus reducing the coordination problem. The second example is having a fixed relationship between certain base prices and a number of other prices such that prices move in parallel.
Nestle/Perrier (Case IV/M.190 [1992] OJ L365/1; [1993] CMLR M17) is an example of a merger where the Commission found that the major suppliers published standardised lists that could be easily compared and also implemented "a regular exchange of information on quantities sold each month, broken down by major brands".

and may differ only to the determination of that percentage, which in case of collusion could be determined through an agreement between the oligopolists[144].

Standardisation, though, may have also positive effects upon consumers when, for instance, it is used to eliminate hazardous products, thus protecting consumer health and safety[145]. Moreover, if products are standardised, price may be the only area of competition thus forcing suppliers to compete aggressively in that area. Consumers, then, could benefit from lower prices[146].

Regarding beverage cans, ANC in a document filed with the US Security and Exchange Commission[147] stated that beverage cans are standardised concerning their physical characteristics, while from the other market information provided by that document and the Commission's and thesis's investigations, it could be inferred that the pricing formula for the product was potentially also standardised, since it was relatively easy for all firms to know all its basic parameters. In particular, the largest part of can production costs (60%-70%) refers to the raw material, namely aluminium and steel sheets[148]. The prices of steel are relatively stable, while those of aluminium are volatile but transparent, since they are determined in the transactions of London Metal Exchange. For limiting their exposure to the raw material all can producers include in the can contracts terms for price adjustments in accordance with the prices of the raw material[149]. Given that the profit margins of all firms are as shown relatively similar, it is reasonable to believe that the terms for price adjustments in the contracts with their customers are also relatively similar[150]. In addition, production costs are also identical, since there are no technological differences between firms. Lastly, the fact that all firms take part in several tenders annually and that the prices offered there, are relatively similar as the Commission's analysis showed, makes even stronger the argument that sellers know exactly all the variables of the pricing formula used in these tenders.

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144 See also Clark *op.cit.*142.

145 According to Herbert Hovenkamp, *op.cit.*58, at p. 231 "[b]oth standard setting and rule making are generally in the best interest of consumers because they substantially reduce information costs, and therefore consumer search costs...The providers of certain products or services are experts and often are in a better position than anyone else to evaluate the quality of a competitor' s product".

146 See also Clark *op.cit.*142, at 936; also David Balto "Antitrust Concerns" 618 *PLI/Pat*, 2000, 305, at 320-321.

147 See the firm's SEC report of 21/4/1999 at p. 42 available at http://www.sec.gov/Archives/edgar/data/1084304/0000947871-99-000163.txt

148 *Ibid.*

149 *Ibid.*

150 If the firms had offered significantly different terms, with respect to the price of the raw material, in the can contracts this would have affected their profitability in comparison with their competitors. Some would have achieved lower profits and some higher ones.

As a result, product standardisation in this case could be used to facilitate collusion between beverage can suppliers including Carnaud-Metalbox rather than to benefit consumers.

7.4.3 Conclusions

The CFI in *Airtours* required the Commission to show that the concentration would have the "direct and immediate" effect[151] of creating or strengthening a collective dominant position by means of a significant and lasting impediment to effective competition in the common market. In other words the Commission must show a significant alteration to competition otherwise the merger must be approved[152]. The Court required also the production of "convincing evidence" by the Commission[153].

In *Rexam/ANC* the substantial alteration to competition, which led to the establishment of the duopoly, was, according to the Commission, the creation of symmetry in market shares and overcapacity between the merged entity and CCE in the market of Northern Europe. This symmetry along with some other features existing in the market, such as transparency, product homogeneity, identical costs and prices, flat growth-trends and barriers to entry filled the list of convincing evidence used by the Commission in support of its decision.

The discussion of the Commission's oligopoly doctrine above, considered the question of the inclusion also of Carnaud-Metalbox in the collusive oligopoly. The conclusion reached from the analysis is that such an inclusion would not have been unreasonable, since it was supported by market conditions.

If Carnaud-Metalbox had been included, the substantial alteration of competition, as a result of the merger, would not have been the creation of symmetry but instead the reduction in the number of firms from four to three, which taking into account the favourable market conditions would significantly enhance the potential for collusion. The Commission Guidelines on the assessment of horizontal mergers consider that the reduction in the number of firms may, in itself, be a factor facilitating collusion[154].

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[151] Case T-342/99 *Airtours v. Commission* [2002] ECR II-2585, [2002] 5 CMLR 494, para.58, citing also Case T-102/96 *Gencor* v *Commission* [1999] ECR II-753, para.94.

[152] *Airtours v. Commission ibid.* para.58, citing also Case T-2/93 *Air France* v *Commission* [1994] ECR II-323, paras.78-79, and *Gencor v Commission, ibid.* paras.170,180 and 193.

[153] *Airtours v. Commission ibid.* at para.63.

[154] Para.42.

The issue has practical importance since it concerns also the decision on the remedies. The thesis will therefore revisit it by using as an additional analytical tool the theories on mavericks and by considering it in the context of the discussion of the remedies later in this chapter.

7.5 Non-collusive-oligopoly consideration and the beverage can market

7.5.1. Some comments on the Commission's new policy concerning non-collusive oligopolies

Beverage cans, as an oligopolistic market[155], offers a good opportunity to discuss the new doctrine on non-collusive oligopolies of the European Commission and issues of its practical application.

The new doctrine was presented by the Commission in its Guidelines on the appraisal of horizontal mergers, where non-collusive oligopolies along with the traditional concept of single-firm dominance were included in the section dealing with non-coordinated effects[156]. In this section the Guidelines refer to certain market factors, which may indicate the existence of non-coordinated effects, without making specific reference to non-collusive oligopolies. However, in the relevant provisions, one could identify elements particularly relevant with the analysis of non-collusive oligopolies.

In particular, in paragraph 25, situations of non-collusive oligopolies are described as follows:

"...mergers in oligopolistic markets involving the elimination of important competitive constraints that the merging parties previously exerted upon each other together with a reduction of competitive pressure on the remaining competitors may, even where there is little likelihood of coordination between the members of the oligopoly, also result in a significant impediment to competition".

All mergers meeting these criteria will be declared incompatible with the common market.

Further, paragraphs 28-30 under the title "Merging firms are close competitors" refer to situations involving differentiated products. Regarding these products, the exercise of unilateral market power through higher prices is generally more likely to occur when the products supplied by the merging firms are closer substitutes with

[155] The Guidelines on the assessment of horizontal mergers in footnote 29 define an oligopolistic market as a market structure with a limited number of sizeable firms.
[156] Paras.24-38 of the Guidelines.

each other than with the products of rivals. According to the Guidelines[157], the higher the degree of substitutability between the merging firms' products, the more likely is that the merging firms will raise prices significantly[158]. As for rivals, they are more likely to constrain the merging firms when they produce close substitutes to the products of the merging firms than when they offer less close substitutes[159].

Therefore the Commission in cases involving differentiated products will seek to evaluate the level of substitutability between the products of the merging firms as well as between the products of these firms and their competitors in order to find out whether the merger is compatible with the common market[160].

In this context, the fact that rivalry between the parties has been an important source of competition in the market may be a central factor in this analysis[161]. The existence of high pre-merger margins may also make significant price increases more likely[162]. The Commission will also take into account the possibility of repositioning or product-line extension by competitors or the merging firms, which could potentially influence the incentives of the merging firms to raise prices[163].

Depending upon availability of adequate market data, the degree of substitutability will be evaluated through customer preference surveys, analysis of purchasing patterns, estimation of the cross-price elasticities of the products involved or diversion ratios[164].

The evaluation of how close the merging firms compete may be facilitated by an examination of the concentration levels in the market. Concentration generally is not considered as providing reliable evidence in cases involving differentiated products because it does not take into account the level of substitutability between the products and therefore could mislead. However, the presence of high concentration in the

[157] Para.28.
[158] This is so because the competitive pressure that the two products were exerted upon each other prior to the merger does not exist any more. For a formal presentation of the relevant market models see M. Ivaldi, B. Jullien, P.Rey, P. Seabright, J.Tirole "The Economics of Unilateral Effects", Interim Report for DG Competition of the European Commission, IDEI, Toulouse, March 2003, at 27-61.
[159] Para.28 of the Guidelines.
[160] *Ibid.*
[161] The Guidelines by way of example (para.28) refer to situations where the merging firms were offering pre-merger products, which were considered by substantial part of consumers as their first and second choices. In these cases the merger could generate significant price increase.
[162] Para.28 of the Guidelines.
[163] Para.30 of the Guidelines.
[164] Para.29 of the Guidelines.

market could potentially indicate that the firms compete close enough to increase prices[165].

The Commission Guidelines do not directly relate the evaluation of substitutability between differentiated products with the level of concentration in the market but this can, nevertheless, be clearly inferred from other sections of the Guidelines where market shares and concentration are established as providing useful first indications of the market structure and the competitive importance of both the merging firms and their competitors and therefore are examined in all merger cases[166]. The Guidelines establish also concentration thresholds, which could be associated with the identification of competitive concerns and these thresholds are also relevant to the evaluation of substitutability between differentiated products[167].

Also, regarding market shares, the Commission's practice for establishing single-firm dominance requires a market share of at least 40% and possibly 50% for the merged entity and it has also to be the market leader[168]. The non-collusive-oligopoly concept can now justify the establishment of unilateral market power for firms holding a market share below 40%, while the concept does not require the merging firm to be the market leader[169]. The lower market-share threshold for establishing anticompetitive effects according to the Guidelines is 25%, which however, does not apply to oligopolies[170].

Lastly, another market scenario found in the Guidelines and which can be particularly relevant in cases involving non-collusive oligopolies is when the merger

[165] See also Roscoe B. Starek III and Stephen Stockum "What Makes Mergers Anticompetitive? 'Unilateral Effects' Analysis under the 1992 Merger Guidelines" 63 *Antitrust L.J.* 1995, 801, at 815-819.
[166] For more details about the Commission's use of market shares and concentration see in section III (paras.14-21) of the Guidelines.
[167] The concentration levels established by the Guidelines were examined in details in previous chapter.
[168] See para.17 of the Guidelines.
[169] This could be inferred from a combined interpretation of paras.17-18 of the Guidelines. In particular, in para.17 it is stated that the Commission has in several cases considered mergers resulting in firms holding market shares between 40% and 50% and in some cases below 40%, to lead to the creation or the strengthening of a dominant position. In para.18 it is stated that there is an indication of compatibility for mergers which result in a combined market share for the undertakings concerned that does not exceed 25%. From the above provisions and taking into account the Commission's past practice, one could infer that mergers resulting in a combined market share of between 25% and 40% and which do not create a market leader could in appropriate circumstances also be declared incompatible with the common market. Such situations in the past were not dealt with under the dominance test mostly because the market shares of the parties were not reaching 40% or because the merger did not create a market leader. The basis for prohibition under the new policy cases can be seen paragraph 25 of the guidelines where it is stated that "...mergers in oligopolistic markets involving the elimination of important competitive constraints that the merging parties previously exerted upon each other together with a reduction of competitive pressure on the remaining competitors may, even where there is little likelihood of coordination between the members of the oligopoly, also result in a significant impediment to competition". In other words the requirement of high market shares that existed under the dominance test does not exist any more, since the focus now is on significant impediment to competition which is in principle unrelated to the market shares of the parties.
[170] See in footnote 24 of the Guidelines.

eliminates an important competitive force, namely a firm, which is capable of influencing the competitive process more than its market share or similar measure would suggest[171]. In such cases the merger will be considered by the Commission as anticompetitive and this will happen particularly when the market is already concentrated.

In general, and apart from the above-described situations, the Commission's declared intention in the market test of the Merger Regulation is to capture all anticompetitive mergers and, in this context, it should be expected that all market scenarios giving rise to non-collusive oligopolies be covered by the non-coordinated effects doctrine of EU merger control.

Another important point is that although the concepts of non-collusive and collusive oligopoly are distinct and mutually exclusive[172], one should not exclude that a merger could result in either of these effects[173] or result in both of these effects occurring subsequently[174]. Thus, competition authorities in mergers involving oligopolies will have to examine both scenarios and potentially end up with a decision establishing both unilateral and coordinated effects[175].

The issue however is also related to the substantive test of merger control and its scope. In the US where the focus of the SLC test is on the reduction to competition as a result of the merger competition authorities can come up with a decision establishing both unilateral (non-collusive oligopoly) and coordinated effects (tacit collusion)[176], as possible reasons for the reduction in competition. Conversely, in

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[171] See in paras.37-38 of the Guidelines.

[172] A non-collusive oligopoly refers to the overall detrimental welfare effects resulting from the individual changes or adjustments in prices and output that occur in the market following a merger in an oligopolistic market. A collusive oligopoly refers to a reduction in welfare caused when a merger enable a collusive equilibrium to emerge in the market. Also the two types of oligopoly have different equilibrium outcomes (see Europe-Economics *op.cit.*123, at 49-50, 62-63; also Alistair Lindsay, *The EC Merger Regulation: Substantive Issues*, Sweet & Maxwell, 2003, at 3.06)

[173] The analysis of mergers looks to future competition developments and therefore it is possible for the market situation following the merger to concentrate features for which either of the two theories could apply. For instance, when competition authorities know that the merger will result in higher prices but the existing evidence indicating tacit collusion, as a source of the higher prices, is not strong enough they could rely on the non-collusive oligopoly doctrine for challenging the merger. That doctrine as explained above does not require proof of a collusion mechanism and therefore is easier to establish. On the issue, see also Europe Economics *ibid.* at 62-63.

[174] Such a situation could occur, for instance, when the merger eliminates a maverick firm from the market. The elimination of the maverick will enable the merging firm, as a first step, to increase prices unilaterally and, as a second step, to seek agreement with the remaining competitors in order to achieve even higher profits (see also Lindsay *op.cit.*172, at 3.07; Europe-Economics *ibid.* at 63).

[175] From a real-market perspective non-collusive oligopolies are more likely to arise in markets where an explicit agreement could not be enforced or would create too large a risk of detection by competition authorities (see also Hovenkamp, *op.cit.*58, at 161). Thus, competition authorities by examining both effects will not depart from market realities.

[176] Europe-Economics *op.cit.*123, at 101, cite the view of a senior US official, which has justified the establishment of both unilateral and coordinated effects in the same case as follows:

Europe where the focus under the dominance test was narrower, by looking to the establishment of either single-firm or collective dominance, the potential of the establishment of both effects was rather impossible[177]. However, the new European SIEC test by looking to significant impediment to competition -a concept which involves both unilateral and coordinated effects- seems to allow for the establishment of both these effects.

7.5.2. Non-collusive oligopoly in the beverage can market

In oligopolistic markets, such as beverage cans, where a small number of sizeable firms participate, the behaviour of one firm has an appreciable impact on the overall market conditions, and thus on the situation of each of the other firms[178]. Thus, any merger in such a market by altering the behaviour of the merged entity influences also the behaviour of its competitors, which are forced to adjust to the new market reality.

Competition authorities analysing non-collusive oligopolies, should therefore evaluate not only the impact of the merger on the behaviour of the merged entity, but also the extent of which the remaining competitors could be expected to react to the modification of the merged entity's expected actions[179].

In this context, competition authorities should first look to the type of competition in the market. This is particularly important for assessing the ability of the merged entity to raise prices unilaterally and the ability of competitors to constrain that firm.

When the market involves differentiated products competition refers to prices[180] and in such cases it often occurs that the prices are strategic complements where an increase in the price of one good will typically lead competing firms to increase their own prices though probably to a lesser extent. When a merger occurs in such a

"We intended to argue that (a) there is a reasonable likelihood that the planned merger will create consumer harm, (b) we cannot predict with complete certainty/confidence how that harm will be manifested, and (c) given the structure and prevailing conditions in the industry, there is a risk of either a worsening of (independent) oligopoly pricing or tacit/explicit collusion. Either eventuality would be detrimental to consumers. This 'pleading in the alternative' is not all that unusual, particularly in the context of predicting whether the merged firm will exercise its market power through price or quality effects (or other non-price discrimination)".

[177] See also Europe-Economics *ibid.* at 63.

[178] See also footnote 29 of the Guidelines on the assessment of horizontal mergers.

[179] See also Ivaldi et al. *op.cit.*158, at 7.

[180] Differentiated products are imperfect substitutes, which means that the market price of each product will depend on the amount of the imperfect substitutes produced by other producers. This is so because a price-increase in one of these products could lead some buyers to switch to substitutes thus reducing or even eliminating the impact of the price rise. The level of substitutability between product will determine therefore their prices. This is in accordance with the Betrand model of oligopolistic interaction. For more details about price competition in differentiated products see Ivaldi et al. *ibid.* at 28-42.

market, it causes increases in the merged entity's prices, which in turn causes positive response from the other firms thereby further encouraging the merged entity to raise its own prices. Thus, the strategic complementarity of prices in differentiated-product markets could lead post-merger to higher equilibrium prices in the oligopoly.

On the other hand, when the market involves homogeneous products competition refers to quantities[181]. The quantities of the competing firms are often strategic substitutes by means that a reduction in output by one firm typically leads competing firms to expand their own output, although not to the extent of fully compensating the initial output reduction. Thus, the merged entity in homogenous-product markets is discouraged from reducing output because such a reduction could trigger an opposite response from the other firms. A merger between homogeneous-product firms could therefore become unprofitable in the absence of significant efficiency gains.

Beverage cans are standardised products, which enhances homogeneity and therefore the market scenario about homogeneous products could apply. This scenario, as shown above, indicates that mergers between firms selling homogeneous products may fail to raise prices post-merger high enough due to the reaction of competitors[182]. However, the prices will finally increase, thus reducing consumer welfare.

To understand why prices will finally increase, it is necessary to see in more details the reaction of competitors. In oligopolistic markets, due to the interdependence between the oligopolists[183], an output reduction and the associated price increase by one of them will force some demand for its products to switch to competitors. These competitors, if they do not increase their supply to satisfy their new demand, will see the prices of their products also to increase, thus realising higher margins in their sales and thus extra profits[184]. On the other hand, if they

[181] This is so particularly in industries where production capacity is relatively fixed in the short-term or where there are no substitutes for the product. In such cases the level of available capacity and production will determine prices. This is in accordance with the Cournot model of oligopolistic interaction. See also Ivaldi et al. *ibid.* at 42-55.

[182] The fact that the merger will finally manage to raise prices is not incompatible with the fact that the merger may end up being unprofitable, which was mentioned above.

The economic theory using the Cournot model for homogeneous products has proved that the response by competitors will always only partly offset the reduction in output by the merged entity, and thus higher prices will finally occur in the market. However, in respect of the merged firm, the price increase will not be high enough to justify the costs from the reduction in output (see also Europe Economics *op.cit.*123, at 53).

[183] An oligopolistic market refers to a market structure with a limited number of sizeable firms. Because the behaviour of one firm has an appreciable impact on the overall market conditions, and thus indirectly on the situation of each of the other firms, oligopolistic firms are interdependent. (See footnote 29 of the Guidelines on the assessment of horizontal mergers).

[184] See also Ivaldi et.al. *op.cit.*158, at 46.

increase their supplies to sufficient level to meet the whole new demand the prices of their products will remain unchanged but they will have realised extra profits from the additional sales they will have made. In this case, however, the profit margins could be lower[185].

The choice therefore that competitors face is between *high margin/low sales* and *low margin/high sales*[186]. The result of this trade-off is that almost always the final reaction of competitors will generate both higher prices and higher sales for their products. This will happen because competitors will finally choose to supply more products but not to a level sufficient to offset the reduction in output by the merged firm[187]. Thus, apart from higher sales, the prices of their products will also increase since a fraction of the demand will remain unsatisfied.

Taking also into account the counter-reaction by the merged entity and further responses by the competitors the final market equilibrium in an oligopoly involving homogeneous products will be typically as follows: the market prices of all products will increase, the sales of the merged entity will decrease, and the sales of competing firms will increase[188]. The increase in all prices is because the total supply in the market will be reduced post-merger[189]. Thus, a merger in a homogeneous-product oligopoly typically reduces consumer welfare and *Rexam/ANC,* which is examined by the thesis, is such a merger.

To understand why *Rexam/ANC* merger will produce similar results let us examine the behaviour of its competitors. Capacity-constrained Carnaud-Metalbox would be unable to expand its own output to respond to the output-reduction by the merged entity. Thus, Carnaud-Metalbox, according to those mentioned above, would prefer to earn higher profits from higher prices in its existing products.

Regarding CCE, which possessed sufficient overcapacity to offset any output reduction by the merged entity, one would expect this firm to increase its sales to that level. However, economic theory, as presented above, suggests that CCE would finally increase its sales but not to a level sufficient to offset the results of the *Rexam/ANC* merger. Although there is not sufficient evidence available about how CCE could react to the merger, the fact that this firm, as *Rexam/ANC,* was profit

[185] The increase in production is often associated with significant costs, which may be sunk. For this reason the additional production could be high-cost thus harming profit margins.
[186] See also Ivaldi et al, *op.cit.*158, at 45.
[187] See *ibid.*.
[188] See also Ivaldi et al. *op.cit.*158 at 52.
[189] See also *ibid.*

maximiser[190] and that the profit margins in the industry were stable and almost identical for all firms[191], could indicate that CCE would prefer not to adopt radical steps but instead to follow the standard behaviour proposed by the economic theory, namely to increase both its supply and prices, which would enable it to improve both its profit margins and sales.

As a result, the equilibrium prices of beverage cans would be higher thus harming consumer welfare.

Further, the magnitude of the reduction in consumer welfare depends amongst other things on the level of concentration in the market. Mergers in highly concentrated markets and/or which substantially decrease competition should cause more concern than when the market is fragmented and/or when the change in concentration is negligible[192].

In beverage cans the merger of *Rexam/ANC* reduced the number of competitors from four to three indicating a highly concentrated market, while the change in concentration was significant. In particular, the HHI index, which was calculated on the basis of available information about the market shares of the firms in the market, must have been around 3000 in the pre-merger levels of concentration, while the merger must have contributed an additional at least 600 points to the index[193] thus indicating risks of negative competitive effects[194].

However, these effects could be prevented if the merger produced sufficient efficiencies. In such a case consumer welfare would not be threatened and the merger could be cleared. In respect of *Rexam/ANC*, as shown below, the merger was not

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[190] According to the Guidelines on the assessment of horizontal mergers (para.28), the existence of high pre-merger profit margins would make significant post-merger price increases more likely.

[191] See also the analysis about the duopoly above.

[192] See also Europe Economics *op.cit.*123, at 53 citing also J. Farrell and C. Shapiro "Profitable Horizontal Mergers and Welfare" in L. Phillips *Applied Industrial Economics*, Cambridge University Press, 1998, 347, at 360. A wide range of economic theories on oligopolistic conduct suggests that fewer firms and more concentrated markets are associated with higher prices (See Jonathan B. Baker and Steven C. Salop "Should Concentration be Dropped from the Merger Guidelines?" 33 *UWLA L. Rev.*, 2001, 3; Richard Posner "Oligopoly and Antitrust Laws: A Suggested Approach", 21 *Stan. L. Rev.*, 1969, 1582). Empirical studies on industrial organisation also confirm the positive relationship between market concentration and prices (see e.g. Richard Schmalensee "Inter-industry Studies of Structure and Performance", in *Handbook of Industrial Organisation*, Richard Schmalensee & Robert Willig eds.,1989, 988)

[193] According to the Commission's decision, the market share of the parties post-merger was 35%-45% for each of Rexam/ANC and CCE and 15%-25% for Carnaud-Metalbox. According to ANC, *op.cit.*148, at 43, its market share in Europe in 1998 was 31%. This information was used for a fast calculation of the HHI index for prior and after the merger. The results are not precise but are nevertheless illustrative of the level of concentration and the impact of the merger in the market.

[194] These results fall outside the concentration thresholds set by the Guidelines on the assessment of horizontal mergers and which the Commission considers as unlikely to challenge a merger. Therefore the HHI levels for *Rexam/ANC* merger could offer a first indication for the competitive risks from the merger. However, the Commission will decide whether to finally challenge the merger or not only after taking into account also all the other evidence.

expected to create significant efficiencies in Europe and therefore efficiencies could not be used as an argument for approving the merger.

The existence of non-collusive oligopoly following the merger could be also cancelled in the presence of sufficient entry. A merger by reducing supply of products typically attracts new entry by firms, which seek to cover the created deficit. In such cases the post-merger profitability of entry is higher than the pre-merger profitability of entry. Thus, in the presence of such an entry the negative impact of the merger could be reduced or even eliminated.

Entry in the beverage can market is examined in more details below. However, as a preliminary comment it could be said that no sufficient new entry was to be expected in the market and therefore the oligopoly would not be threatened.

7.5.3 Conclusions- Non-collusive oligopoly versus collusive oligopoly

Even the discussion of non-collusive oligopoly and its application in *Rexam/ANC* above reveals why this doctrine is necessary for an effective merger control.

A first reason is because this doctrine compared with tacit collusion is easier to prove since the focus is only on the possibility of higher prices post-merger and there is no need to prove the existence of collusion mechanisms.

A second reason is because the doctrine reveals cases of competitive harm as a result of the merger and in this sense it is necessary for an effective merger control system. Compared with tacit collusion, non-collusive oligopoly results in lesser price increases but these increases are still above the competitive level.

A third reason is that for firms in oligopolistic markets, which are normally under the scrutiny of competition authorities for the potential of tacit collusion, raising prices unilaterally is easier and safer, and therefore more likely to occur[195]. Therefore competition authorities should be prepared to deal, apart from tacit collusion also with these situations.

The utility of the non-collusive-oligopoly doctrine for EC merger has already been proved in one of the first decisions made by the Commission under C.R.139/2004. In *Syngenta CP/Advanta*[196], which was cleared subject to commitments following a Phase-I investigation in August 2004, the Commission found that the mergers would

[195] See also Hovenkamp *op.cit.*58, at 161.
[196] Case COMP/M.3465 *Syngenta CP/Advanta* (Decision of 17/8/2004).

significantly impede effective competition in the common market or in a substantial part thereof "...by the creation of non-coordinated effects in an oligopolistic market for sugar beet seeds in Belgium and France"[197]. For these markets the Commission found that the merger would give the merging firms a market share of 50%-60% in Belgium and 40%-50% in France while the remaining market shares would be held almost entirely by another firm, the KWS. The Commission considered the reduction of competitors as a result of the merger from 3 to 2 sufficient to justify the establishment of non-coordinated effects (non-collusive oligopoly) in this case.

The decision in *Syngenta CP/Advanta* demonstrates, as mentioned above, the utility of the non-collusive-oligopoly doctrine for merger control but it is still very early to say what form that doctrine will take. For instance, will the Commission continue the current practice established in collective-dominance cases and which focuses on tacit collusion by mostly two firms, also in the case on non-collusive oligopolies? The analysis in *Syngenta CP/Advanta* shows that mergers reducing the number of competitors from 3 to 2 will definitely fall within the scope of the doctrine. But what about cases such as the beverage cans where the merger reduces the number of competitors from 4 to 3? It is submitted that, where justified by the market conditions, should also fall within the scope of the doctrine. Other issues requiring clarification are related to which market factors will finally be crucial for establishing non-coordinated effects under the ECMR. All these issues will be clarified in future cases but the decision in *Syngenta CP/Advanta* shows that the Commission will make frequent use of the doctrine thus, giving new impetus to EC merger control.

Regarding beverage cans, there is a basic difference between the Commission's analysis of tacit collusion and the analysis of non-collusive oligopoly above: while the Commission considered the symmetry created, as a result of the merger, as the source of the competitive problem, the analysis above argues that regardless of the symmetry beverage can prices would increase anyway because the merger would increase significantly the level of concentration in an already highly concentrated market.

What should competition authorities do in such cases? It seems that since the effects of tacit collusion are more detrimental to competition than those of non-collusive oligopolies, the most appropriate solution would be to pay more attention to

[197] *Ibid* para.52.

tacit collusion when there is strong evidence showing to that direction. Otherwise the focus should shift to non-collusive oligopolies[198].

However, the new substantive test of the Merger Regulation, by emphasising the substantial impediment to competition, potentially allows for issuing a decision relying on both effects. Such a solution might be useful particularly when it is not absolutely clear from the analysis, which effects is more likely to occur.

7.6 Competition in oligopolistic markets: the role of maverick firms

The analysis of the SGA market gave the opportunity to discuss to some extent the issue of maverick firms. The analysis of the issue will be completed here where detail of the application of the relevant theories will be discussed.

7.6.1 The concept of " mavericks" and their utility in merger analysis

It was seen in chapters 4 and 5 that the concept of "maverick" refers to a firm that declines to follow the industry consensus and thereby constrains effective coordination[199]. Even if maverick firms are particularly relevant when issues of coordination are examined, they can also be useful in cases of non-collusive oligopolies where these firms may prevent unilateral price increases[200].

The basic feature of a maverick firm is that it is an aggressive competitor capable of exercising an important competitive role in the market, disproportionate to its size or market share[201].

According to the relevant theory[202], a merger resulting in the loss of a maverick is likely to facilitate coordination, unless another firm is well positioned to assume the role of maverick post-merger. Conversely, the loss of a non-maverick firm is unlikely

[198] This is the view also of Europe Economics *op.cit.* 123, at 122.
[199] For a review of the application of "maverick firm" theory by US authorities see William J. Kolasky "Coordinated Effects in Merger Review: From Dead Frenchmen to Beautiful Minds and Mavericks", April 2002, available at www.usdoj.gov/atr/public/speeches/11050.pdf
[200] For instance, in the scenario about homogeneous products examined above, a maverick firm could be one with significant excess capacity, which in response to the output reduction caused by the merger, expands its sales to a sufficient level to eliminate the market impact from the output reduction, thus preventing prices from increasing.
[201] See also David T. Scheffman and Mary Coleman "Quantitative Analyses of Competitive Effects from a Merger, June 9, 2003, at 6. The 1992 US Horizontal merger guidelines provide as an example a firm that has an "unusually disruptive and competitive" influence in the market. The Commission Guidelines on the assessment of horizontal mergers in paras.37-38 refer to such a firm as an "important competitive force"
[202] For more details on the theory see Jonathan Baker "Mavericks, Mergers and Exclusion: Proving Coordinated Effects Under the Antitrust Laws" 77 *N.Y.U.L.Rev.*, 2002, 135.

to increase coordination. The merged entity may become a maverick if the merger generates substantial efficiencies.

The maverick-centred approach promises to assist competition authorities in more effectively distinguishing between changes in market structure that improve industry coordination and those that do not. It is based on the assumption of incomplete oligopolistic coordination[203]. According to Jonathan Baker[204], a US economist and proponent of the theory, "the role of the maverick in the modern economic perspective on incomplete oligopoly coordination provides a theoretical connection between market concentration and more effective coordination: In the absence of specific evidence identifying a maverick, the fewer the number of significant sellers, the more likely it is that the loss of anyone would be the loss of a firm that constraints coordinated conduct".

In merger control the most significant contribution of the theory is that it goes beyond "checklist" analysis, which focuses on general market features, and focuses instead on the role of individual firms.

For the identification of mavericks three methods have been suggested[205]. The first method, termed "revealed preference", is based on observation of a firm's actual conduct for finding if that firm constrains industry pricing. If, for instance, the firm persistently refuses to follow the price increases imposed by the other firms thus forcing the latter to cancel the increase or reduce its magnitude, then that firm could be the market's maverick. The second method uses natural experiments to study what happens to industry prices when the firm's marginal costs rise or fall relative to other firms in the industry. If that firm is a maverick, market prices should change; if not, they will not. The third method, termed the *a priori* factors approach, relies on understanding the reasons for which a firm would prefer a high or low price in the particular market[206].

Regarding merger control, the 1992 US Merger Guidelines, which first established the term, define "mavericks" as firms that "have a greater economic incentive to

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[203] Incomplete or imperfect coordination refers to situations where the oligopolists through coordination do not achieve monopoly profits but less than that. In such cases, which are very often in practice, a maverick firm constraining effective coordination is very likely to exist (see also Baker *ibid.* at 163-166).
[204] Baker *Ibid.* at 198.
[205] *Ibid* at 173-176.
[206] For example, in US cigarette industry during the 1980s and 1990s, Liggett could have been a maverick in part because, uniquely amongst the major cigarette manufacturers, it had a primary commitment to the discount segment of the cigarette market.

deviate from the terms of coordination than do most of rivals" [207] and provide as an example a market situation where in the presence of capacity constraints for many competitors a firm may be a maverick "...the greater is its excess or divertible capacity in relation to its sales and its total capacity, and the lower are its direct and opportunity costs of expanding sales in the relevant market"[208]. A firm may also be a maverick "...if it has an unusual ability secretly to expand its sales in relation to the sales it would obtain if it adhered to the terms of coordination"[209]. The guidelines consider that mavericks may effectively prevent or limit coordinated effects[210]. US competition authorities make increasing use of mavericks in the analysis of coordinated effects[211].

In the EU, the Commission Guidelines, similarly to the US, recognise the competitive significance of mavericks[212] and consider that a merger may increase the likelihood or significance of coordination if it involves a maverick firm with a history of preventing or disrupting coordination[213]. The Commission Guidelines also consider the removal of a maverick due to the merger along with the existence of high concentration in the market as evidence of possible anticompetitive effects[214]. Lastly, the Commission Guidelines include mergers involving a maverick in the special cases, which could force the Commission to identify competitive concerns, even if the level of concentration in the market post-merger would not justify the identification of such concerns[215].

7.6.2 Maverick firms and competition in beverage can market

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[207] § 2.12.
[208] *Ibid.*
[209] *Ibid.*
[210] *Ibid.*
[211] See Kolasky *op.cit.*199.
[212] Paras.37-38 of the Guidelines.
[213] Para.42 of the Guidelines. A recent Commission decision involving reference to mavericks was *SYDKRAFT/GRANINGE* (Case COMP/M.3268, Decision of 30/10/2003). The case refers to the merger between two Swedish firms, which were active in the electricity market. The Commission examined whether Graninge had been the market's maverick, which would be eliminated by the merger, but concluded that the firm could not have been a maverick due to its capacity constraints. Also in *France Telecom/Orange* (Case COMP/M.2016, Decision of 11/8/2000) the Commission considered that the acquisition of Orange by France Telecom was endangering the latter's role as a competitor disrupting the duopoly that existed in Belgian telecom market.
[214] Paras.37-38 of the Guidelines.
[215] See para.20 of the Guidelines.

For beverage cans, the application of the above-described methods for identifying potential mavericks in that market will be examined using available market evidence. The three methods do not guarantee success but are, nevertheless, useful.

Regarding "revealed preference", the first method, which seeks to trace mavericks by observing the actual firms' behaviour, there is not sufficient market evidence for its application. All that is known is that pre-merger Rexam, ANC and CCE were charging relatively similar prices for their products, that all these firms were profit-maximisers and that for this reason all firms had relatively similar costs[216]. However, there is no available evidence from the past about what had happened when one or more of the firms in the market raised prices. Had the other firms followed by increasing their own prices or had any of them refused to follow? One could only assume that all firms followed similar policies because there were no differences in profit margins between firms. Thus, it could be assumed that no firm pre-merger was acting as a maverick.

Regarding the second method, which refers to natural experiments, the issue is whether in case of a firm-specific change in costs that firm adjusts accordingly its prices. If this happens, and provided that the increase in costs does not concern also the other firms in the market, then that firm is the market's maverick. In beverage cans, Rexam had stated[217] that it had been in position to maintain its profitability by acting as a raw material converter, namely by passing higher or lower raw material prices to its customers. According to the method of natural experiments, this could potentially indicate that Rexam was acting as a maverick pre-merger, because the firm was adjusting accordingly the price charged to its customers. However, this criterion requires also the changes in costs of the allegedly maverick firm to be firm-specific and not to affect also all its competitors, since in the latter case this could result in parallel price adjustments by all firms, which in turn may point to coordination[218]. From the available evidence it seems that Rexam was not the only firm to adjust its prices according to price-changes in the raw materials. ANC was also, as shown, taking measures to protect itself from exposure to the raw material[219]. Further, taking into account that factors such as costs and profit margins were identical for all firms it

[216] See para.24 of the Commission's decision.
[217] This is repeated in all annual reports of the firm to its shareholders (www.rexam.com) where Rexam bases its satisfactory level of profitability on its ability of passing the higher raw material prices to its customers.
[218] See Baker *op.cit.*202, at 174-175.
[219] See the ANC reports to the US SEC cited above in the analysis.

could also be inferred that all firms were taking similar measures for can price adjustments in accordance with the prices of the raw materials. And provided that changes in the prices of the raw material were occurring at the same time –increases or decreases in aluminium prices were affecting all firms- it is reasonable to believe that all firms were adjusting the can prices nearly at the same time, which could mean that no maverick existed in the market. Additional support to this argument could be found in the fact that the merging firms and CCE pre-merger were charging relatively similar prices, which indicated that no firm-specific price rises occurred[220]. As a result, the application of the second methodology shows that likely none of the firms in the beverage can market was a maverick pre-merger.

Regarding the third method, which involves examination of *a priori* factors, the 1992 US Merger Guidelines recognise two such factors[221]: the first, is the existence of excess capacity in a firm, which could reinforce the potential this firm to be a maverick in a market where many competitors are capacity-constrained; and second, is the "unusual" ability of a firm to secretly expand its sales in relation to the sales it would obtain if it adhered to the terms of coordination. This ability might be related to expansion of captive production. According to the guidelines the above factors could potentially provide sufficient incentives for some firms to act as mavericks.

In beverage cans, the second factor is difficult to apply since the firms are not vertically integrated and therefore secret expansions through captive production are not possible.

The first factor, excess capacity, would exist post-merger in two of the three competitors but as the Commission rightly mentioned this could be more a tool for punishing deviators than for deviating from common policies[222]. The merged entity could potentially act as a maverick if the merger created sufficient efficiencies, which in turn would create cost advantages against its competitors. In such a case the merged entity could use its excess capacity to act as a maverick[223]. However, as will be explained below, significant efficiencies were not expected in Europe and therefore it was unlikely coordination to break on such grounds.

7.6.3 Conclusions

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[220] See para.24 of the Commission's decision.
[221] §2.12.
[222] See para.24 of the decision.
[223] This possibility is recognised in the revised section 4 of the US Merger Guidelines dealing with efficiencies.

The application of three methodologies on mavericks to the beverage can market seems to indicate that none of the players in the beverage can market pre-merger or post-merger would have been a market maverick. This, in turn, could mean that the market demonstrated already pre-merger risks of tacit collusion, which would be further strengthened after the *Rexam/ANC* merger, because the latter would further increase concentration.

Although the theory on mavericks concerns mostly anticompetitive coordination, it can also prove useful for the assessment of non-collusive oligopolies. In such cases if there is no maverick in the market, there is indication that rivalry between firms is weak thus reinforcing the potential of unilateral price increases. Thus, the merger of *Rexam/ANC* by increasing significantly the level of concentration in an already highly concentrated market with weak competition increased also significantly the risk of unilateral price increases post-merger.

7.7 Single dominance in the market of Southern Europe[224].

The Commission considered that the merger would create single dominant position in that market. The parties' post-merger market share would be 65%-75%, followed by Carnaud-Metalbox with 25%-30% and Tubettifico Lecco, an Italian firm, with less than 5%. In addition, the Commission found that the parties' overcapacity in that market was 5%-15%, which was considered as sufficient to assist them to implement, sustain and monitor a price increase. Carnaud-Metalbox was capacity-constrained and, thus, unable to challenge the parties' dominant position. Lastly, the market of Southern Europe was experiencing growing demand.

This part of the Commission's decision did not raise significant issues for discussion, since the dominant market position of the merging firms was obvious.

7.8 Bargaining power

The Commission examined the parties' allegations that the market was dominated by a small number of very powerful buyers and, although it recognised that there were

[224] Para.25 of the decision.

some large firms in the market, it concluded that they represented a low share of the parties' sales and therefore they could hardly be seen as having any considerable buyer power.

The parties also claimed that many "sophisticated" buyers had developed a policy of dual sourcing. However, the Commission found that 50%-60% of Rexam's main customers had a single source of supply and that these customers could be discriminated against in prices by the firm, since they could not exercise arbitrage.

The two issues, buyer power and price discrimination separately will now be examined.

7.8.1 Buyer power

7.8.1.1 The role of buyer power in merger control

The Commission Guidelines define buyer power, as "...the bargaining strength that the buyer has vis-à-vis the seller in commercial negotiations due to its size, its commercial significance to the seller and its ability to switch to alternative suppliers"[225]. Buyer power is taken by the Commission into account if it is sufficient to prevent the merged entity from significantly impeding effective competition.

One situation of countervailing buyer power exists, according to the Guidelines, when a customer can "...credibly threaten to resort within a reasonable timeframe to alternative sources of supply should the supplier decide to increase prices or to otherwise deteriorate quality or the conditions of delivery"[226]. This will be the case if the buyer can immediately switch to other suppliers, credibly threaten to vertically integrate into the upstream market, or sponsor upstream entry[227].

A buyer can also exercise countervailing buyer power by refusing to buy other products produced by the supplier or, particularly in the case of durable goods, delay purchases[228].

Buyer power can be also effective in cases involving coordinated effects, where buyers may offer a sufficient incentive to an oligopoly member to deviate from

[225] Para.64 of the Guidelines.
[226] *Ibid.* para.65.
[227] *Ibid.*
[228] *Ibid.*

parallel behaviour[229]. This can be particularly possible if buyers have the ability to break the sellers' policy by offering them long-term contracts[230].

Although buyer power usually requires large firms, this does not necessarily preclude small firms who can coordinate their orders through a buyers' cooperative[231].

However, in practice countervailing buyer power is often difficult to prove[232] because buyers often face several practical problems, such as the difficulty to recognise that supra-competitive pricing by sellers occurs[233]. Also, upstream entry by strong buyers may be deterred by the existence of sunk costs, while sponsoring of new entry entails for buyers business risks. Lastly, coordination between small buyers can prove in practice unworkable, especially when the number of these buyers is significant[234].

Further, the existence of buyer power pre-merger does not necessarily prove also for the post-merger situation, since the merger, by reducing the number of alternative suppliers by one, reduces also the ability of buyers to diversify their supplies[235].

Thus, for a successful buyer-power defence to be raised, it does not suffice that buyer side is concentrated. It has to be proved that buyers are able to apply specific strategies, which will eliminate the ability of the merging firms post-merger to increase prices[236]. Only if the parties prove by providing specific evidence the ability of buyers to prevent price increases will the Commission accept a buyer power claim[237].

7.8.1.2 Buyer power in the beverage can market

229 See Navarro *et al., op.cit.*6, at 7.162. One such case was *MCI WorldCom/Sprint* (Case COMP/M.1741, (2000); [2000] 5 CMLR 198) in which the countervailing buyer power of buyers of global telecommunications services was an important argument used by the Commission to overcome its objections on the grounds of collective dominance.

230 One such case was *SNECMA/TI* (Case IV/M.368, 1994) in which the three main manufacturers of aeroplanes, which were covering more than three-quarters of the world market of undercarriages for aeroplanes, maintained a purchasing policy for undercarriages based on long-term contracts aimed at breaking suppliers' coordination. The Commission considered the buyer power sufficient to present the establishment of dominance and cleared the merger. See also Mary Lou Steptoe "The Power-Buyer Defence in Merger Cases" 61 *Antitrust L.J.* 1993, 493, at 499.

231 See also Steptoe *ibid.* at 502.

232 For a detailed analysis on a successful buyer power defence in US merger litigation see Robert W. Pratt "The 'Sophisticated Buyer' Defence in Merger Litigation Gains Momentum" 6 *Antitrust,* 1992, 9-13.

233 See also Septoe *op.cit.*230, at 495-6.

234 See also *ibid.* at 502-503.

235 See also para.67 of the Guidelines on the assessment of horizontal mergers.

236 See Bishop and Walker *op.cit.*19, para. 7.80; also Europe Economics *op.cit.*123, at 84-85.

237 See also Europe Economics *op.cit.*123, at 85.

Regarding beverage cans, the parties claimed that the market was dominated by a small number of very powerful buyers. The decision however, does not mention which these buyers were or what was their share in the annual sales of the merging parties. However, according to Rexam, in the list of its top ten customers in 2001[238] there were Coca-Cola, Philip Morris, Pepsi, Interbrew, Carlsberg, Heineken etc. All these firms accounted for 49.5% of Rexam's consumer packaging sales in 2001. Although these figures refer to the firm's worldwide turnover, the situation for the European market might not be very different. In any case, these figures are indicative about the balance between the firm and its customers.

The biggest customer of the merging parties was Coca-Cola, which prior to the merger was absorbing more than 50% of ANC's annual can production worldwide[239]. Although the Commission recognised the existence of one large buyer it held that the other "big" buyers' shares in the parties' sales were low and they had no considerable market power.

However, for assessing buyer power in this case information about can supply contracts would be required. According to the ANC[240], over 60% of its net sales in Europe were made under long-term contracts of varying lengths. Pricing on most of these contracts was determined on an annual base. ANC was managing its exposure to aluminium price volatility by matching aluminium purchases to sales agreements for similar periods. ANC also stated that its manufacturing facilities were located close to major bottlers, while it was providing technical support within its customers' plant.

The existence of long-term agreements and the fact that manufacturing facilities were located close to buyers could indicate that at least some of these buyers were exercising some buyer power. On the other hand, as shown in the analysis above, suppliers of beverage cans were generally all enjoying stable and satisfactory profit margins, which meant that they were not subject to significant pressure by buyers.

However, since a complete analysis of the issue requires more information, which is not available, it is submitted that one can agree with the Commission that buyers in the beverage can market did not possess sufficient buyer power to prevent the exercise of market power by the merged entity.

[238] Source: Rexam's Annual Report for the fiscal year 2001. The information includes also ANC's sales.
[239] Source ANC; see also "Rexam Seals US Can Deal" of April 3, 2000, available at money.cnn.com
[240] See the ANC's report to US Security and Exchange Commission *op.cit.*54.

7.8.2 Price discrimination

Price discrimination is a controversial issue in antitrust because it is not always anticompetitive. From the existing economic studies, it follows that price discrimination often results in lower output than that produced in competitive markets[241], but also, under certain circumstances, it may result in higher output[242] than that produced when the prices are uniform but not at the competitive level. Moreover, it can lead to the exclusion of certain competitors (or potential competitors), which, as a consequence, can reduce the intensity of competition and thereby lead to an increase in the level of prices.

In practice price discrimination works only if arbitrage is not possible or feasible. Arbitrage refers to the ability of customers charged with lower prices to sell to those charged with higher[243], thus cancelling discrimination.

In *Rexam/ANC*, the Commission's reference to the ability of Rexam to discriminate against the 50-60% of its customers that followed a single-sourcing purchasing policy was not very detailed and did not explain, for instance, why discriminated customers could not follow also a dual-sourcing policy as the sophisticated ones or why other policies, such as the push for long-term agreements were not possible. Of course the merger with ANC deprived the discriminated customers of Rexam of a reliable alternative supplier but in the market there was still in existence at least another competitor with sufficient overcapacity, CCE, to supply these customers. However, it seems that according to the Commission the merger by creating symmetrical conditions between the merging firm and CCE would enable the two firms to reach a consensus on the issue and avoid price wars for these customers.

In any case, the existence of price discrimination, which indicated that the merged entity possessed market power, could have been used as an additional factor facilitating the establishment of a non-collusive oligopoly in the market post-merger. The reason would have been that the merged entity without holding dominant position in the market was capable of price-discriminating against some of its customers and this ability would be enhanced by the merger because discriminated customers would be deprived from an alternative source of supply, that is ANC.

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[241] See Hovenkamp, *op.cit.*58, at 566.
[242] Bishop and Walker *op.cit.*19, at 6.26-6.35, present some such cases. See also Whish, *op.cit.*103, at 717-718.
[243] See also Jones and Sufrin *op.cit.*22, at 410.

7.8.3 Conclusions

Buyer power to be examined in the competitive assessment should be sufficient to reverse the anticompetitive effects of the merger.

In *Rexam/ANC*, the Commission's analysis showed that buyer power was not sufficient to prevent the imposition of price discrimination by the merged entity against non-sophisticated buyers and thus to prevent the exercise of either unilateral or coordinated market power by that entity.

7.9 Barriers to Entry

Regarding entry in the beverage can market, the Commission's decision was laconic[244]: "With a €45 million requirement to set up a new line of production, costs of entry in the can manufacturing industry are significant. No new entry has occurred in the European markets for the last two decades, nor is it envisageable that any new entry would be made in the near future".

The Commission also examined[245] the competitive position of two small existing competitors, Canpack located in Poland, and Tubettifico located in Italy, but found that both had limited ability to act as potential competitors. This was in accordance with the opinion of the customers who had stated that these firms, apart from capacity limitations, were lacking accreditation and their products were of random quality.

The Commission's analysis of entry should be assessed by reference to the three factors, which are relevant with any entry analysis, namely likelihood, timeliness and sufficiency[246]. The Commission considered that new entry was unlikely due to the existence of significant entry costs, which effectively prevented any entry potential.

The decision seems to have been correct and this could be best seen in the situation in Southern Europe, particularly Spain and Portugal, where even if the market was experiencing sustainable growth trend, no new entry had occurred during the two decades prior to the merger or was expected to occur post merger.

[244] Para. 27 of the decision
[245] *Ibid.* para.28.
[246] Paras.68-75 of the Guidelines on the assessment of horizontal mergers.

In particular, according to the thesis's investigation, Spain, the third largest market for cans in Europe, has been growing by around 10% rate each year, since 1997[247], while in Portugal the increase in demand for cans only in 2001 was 32%[248]. However, even in such a favourable environment no new entry occurred. In contrast, it was only ANC and Carnaud-Metalbox, incumbent firms in these markets, which expanded their production capacity in Iberia. ANC, in 1999 announced[249] an expansion in its Madrid plant, while Carnaud-Metalbox in 2001 announced[250] the construction of a new, state-of-the-art plant in Seville. The latter expansion was the first new plant constructed in Europe, at least since the early 90s. What was important in this case was that the construction was completed within approximately 12 months[251], which was not very long.

The developments in Iberia raised the question why the increasing demand did not attract new entry. Three possible answers to this question could be given: first, there was a limited number of big firms at the international level, in particular only one, which had no presence already in Europe; second, the existence of localised competition in the beverage can market reduced the possibility of viable entry; and third, the other existing market conditions also did not favour large-scale entry.

In more detail, regarding big international firms, the three major world beverage-can producers, which are far ahead of other competitors, are Rexam/ANC, Crown Cork and the US firm Ball. At the time of the merger Rexam and ANC were already in the European market, Crown Cork was the owner of Carnaud-Metalbox, since 1996 and only Ball had no presence in the European markets. However, for the latter firm, due to the existence of localised competition in Europe, it might have been more profitable to enter into that market through merger with an incumbent player than though autonomous entry.

As shown by the Commission in geographic market analysis, competition in the beverage can market is localised due to transport costs, which is generally a factor not favouring autonomous entry. In particular, localised competition can harm entry in three ways[252]: first, by making more difficult the recovery of sunk costs, since the

[247] Source: Can Makers UK
[248] *Ibid.*
[249] See "American National Can to Expand Capacity in Spain", *Business Newswire*, Sept. 24, 1999.
[250] See Scott Robertson "Crown Building Steel Can Plant in Spain to Tap Growing Market" *American National Can*, August 9, 2001.
[251] See *ibid.*
[252] See also Levy and Reitzes *op.cit.*50, at 713-714.

entrant, due to the existence of local constraints, may not be able to achieve sales sufficient to cover these costs; second, by making more difficult the repositioning of products by incumbent firms in order to accommodate entry and, thus, the entrant faces diminished sales opportunity and lower profits; third, the existence of localised competition makes customers of incumbent firms more loyal to these firms, which reduces the sales opportunities for the new entrant.

The more profitable way for an outsider to gain entry in a market with localised competition could be through a merger with an incumbent player. Such a strategy offers direct access to the local markets and does not entail the risks posed by autonomous entry. In the beverage cans market, such a strategy was followed in 1996 by Crown Cork, which acquired Carnaud-Metalbox and in 2002, two years after the *Rexam/ANC* deal when Ball acquired CCE (Schmalbach-Lubeca)[253]. These were the only cases of entry in the European market and in both the method of acquisition of an incumbent player was followed.

Further, another conclusion that could be drawn from the Crown Cork's and Ball's movements was that any full-scale entry in the beverage can market would potentially require the acquisition of a critical mass in that market, which potentially translated into a market share of more than 10%-15% in the market[254]. Such an entry, however, would require the construction of plants in several local markets, which would mean high sunk costs. Also such a large-scale entry in Northern Europe, where significant overcapacity and flat growth trend exist, would negatively affect prices and profit margins of all firms including the new entrant, thus making the profitability of entry very doubtful. Even if the merger of *Rexam/ANC* led to output reductions, which could typically offer some entry opportunities, in reality it was very unlikely if these reductions would be large enough to attract a full-scale entry. Besides CCE the other duopolist was possessing sufficient overcapacity to close immediately any gap in beverage can supplies post-merger.

As a conclusion, the conditions in the beverage can market did not favour entry by a new competitor post-merger and thus the anticompetitive effects of the merger would not be threatened.

As regards capacity expansions by the two other competitors, Canpack and Tubettifico these firms were not, according to the Commission, reliable competitors

[253] For information about this merger see www.ball.com
[254] This was also the Commission's view as will be shown in the analysis of the remedies for this case below.

due to the random quality of their products. Thus neither existing competitors could pose a threat to the merged entity in the foreseeable future.

7.10 Efficiencies

The Commission did not refer to efficiencies in *Rexam/ANC.* However, the merger, at least in its European part, was not intended to produce significant efficiencies. The acquisition of ANC by Rexam was aimed at boosting the latter's presence in the US market where ANC was a major player. In that market, there were some serious problems with overcapacity, which were exerting significant pressure on can prices and were harming producers[255]. In the US sector the merger probably produced some efficiencies because it helped the merging firms to reduce overcapacity and improve their profitability[256]. However, given that the Commission's analysis focused on the impact of the merger on the European market, in that market no significant efficiencies were expected and therefore the anticompetitive effects of the merger could not be reversed on such grounds.

7.11 The Commission's assessment of Rexam/ANC merger: summary and concluding remarks.

Rexam/ANC was a good case for examining and assessing the Commission's policies concerning oligopolies in the context of merger control. The Commission's decision in *Rexam/ANC,* by applying a conventional checklist methodology and establishing a duopoly, constitutes a classical example of a collective dominance case under the Merger Regulation and therefore its inclusion into this thesis has also helped to discuss the content and limitations of the collective dominance doctrine of the Merger Regulation.

The Commission's analysis and assessment in *Rexam/ANC* was apparently without errors, since the Commission proved its argument for the establishment of

[255] See also Solman *op.cit.*56. Also Rexam's annual reports of fiscal years 2000 and 2001 where the firm illustrates the problems in the US market and its efforts to deal with them.

[256] For more information on the policy that Rexam applied post-merger in order to improve efficiency and profitability in US see e.g. "Rexam Beverage Can Americas Takes Action to Balance Capacity and Demand" *Business Wire,* July 24, 2001; "Rexam Takes Further Action to Balance Beverage Can Capacity and Demand" *Business Wire,* October 31, 2001; Bob Regan "Rexam Plans to shut beverage can plant", *American Metal Market,* Nov. 5, 2001.

duopoly through proof of the basic features of tacit collusion, namely establishment of the terms of collusion, monitoring and punishment of deviations, while in respect of the duopoly the reference to various areas of symmetry between the merged entity and CCE, were also strong arguments.

However, it is submitted that the Commission's analysis, by focusing only on the creation of the duopoly may have ignored the, arguably real, potential of the collusive oligopoly to include also Carnaud-Metalbox, the third and only remaining competitor in the beverage can market post-merger. This thesis has sought to show on the basis of market evidence why Carnaud-Metalbox could have been included in the collusive oligopoly as well.

The issue is of general interest, because, it is submitted that the *Rexam/ANC* decision is an example of the conventional Commission's policy concerning tacit collusion, which needs to be improved. In particular, the collective dominance doctrine of the EU, by relying almost exclusively on dominant duopolies, namely of duopolies comprising the two largest firms in the market, has an inappropriately narrow scope, since it ignores the potential of collusion by more than two firms none of which with dominant market shares. This issue became clearer in the analysis of the SGA market in previous chapter of the thesis and the analysis of this chapter sought to support the argument developed there.

The Commission's preference for dominant duopolies in the context of the dominance test, which required large market shares as an essential prerequisite for establishing competitive harm was potentially justified. However, under the new substantive test of the Merger Regulation, which focuses on the impact of the merger on competition in the broader sense and beyond dominant positions, it may be not. In any case, the argument of this thesis is that the legal test of the Merger Regulation on collective dominance should cover all cases of tacit collusion, which can be proved by viable economic theories, and not only duopolies. The Commission's analysis of cases under the Merger Regulation is not prevented from using any viable theory of competitive harm but the usual culmination of the analysis, as the *Rexam/ANC* case shows, is the establishment of a duopoly.

The issue has practical importance because it is related to remedies and thus to the effectiveness of merger control. For instance, a duopoly and a collusive oligopoly by, let us say, three firms require different remedies. In the former case breaking symmetry between the duopolists may be a sufficient remedy, but in the latter case more radical steps, such as the creation of a new viable competitor may be required. Thus, any merger decision establishing duopoly whereas in the market there are in existence factors indicating broader collusion will fail to fully identify the competitive problems posed by the merger and effectively cure them.

Further, the thesis has used the *Rexam/ANC* decision to discuss the utility of non-collusive-oligopoly doctrine for EU merger control. It is submitted that since non-collusive oligopolies are based on viable economic theories of competitive harm they must be included in the scope of the substantive test of the Merger Regulation as a means to more effectively protect competition in the Community[257]. In this context the thesis applied the non-collusive-oligopoly theory in the case of beverage cans as a means to clarify the utility of the theory as well as its main differences with the coordinated effects doctrine.

Lastly, the concept of maverick firms was discussed above in the context of oligopolies. This concept, which finds increased application in the US helps competition authorities to assess whether a merger in an oligopoly increases the risk of coordination or not. The biggest utility of the theory is that it goes beyond the traditional checklist analysis of mergers by focusing on the individual behaviour of firms. The thesis is of the view that the Commission should make more frequent use of maverick firm theory in the analysis of competition in oligopolies.

7.12. Commitments in *Rexam/ANC* and the decision in *Schmalbach-Lubeca/Rexam*

The commitments submitted by the parties to the Commission[258] included the divestiture of three beverage can plants in Europe. These were Rexam's La Ciotat in Southern France, and ANC's Runcorn in UK and Geslenkirchen in Germany. The divestiture of La Ciotat was aimed at eliminating the single-firm dominance in Southern Europe, while Runcorn and Gelserkirchen were aimed at breaking the duopoly in Northern Europe.

[257] As has been repeatedly argued throughout the thesis the ultimate goal of merger control in the EU is, and should be- the protection of effective competition. This was well presented by Richard Whish *op.cit.*103, at 787, "Merger control is not, or not only, about pre-emptively preventing a merged entity from abusing its dominant position in the future; its also about maintaining a market structure that is capable of delivering the benefits that follow from competition".
[258] Paras.29-31 of the decision.

The divestitures comprised the factories, their equipment and raw materials, their employees and generally everything necessary for running the business. Moreover, the parties undertook for a period of 3 years after the completion of the divestments not to compete for any of the customers transferred along with the divested plants and for a period of two years following the divestiture, not to solicit staff working at the divested plants. Lastly, in order to help the potential acquirer to compete effectively in the market, the parties proposed to transfer to him additional customer contracts, unrelated to the plants in question.

The Commission considered the proposed divestitures as sufficient to address the anticompetitive concerns identified in its competitive assessment and cleared the merger.

The Commission justified its decision as follows[259]:

a. The divestiture of Gelsenkirchen and Runcorn plants was sufficient to eliminate "doubts as to the creation of a duopolistic dominant position in Northern Europe". This would happen because the divestiture would break the symmetric configuration between the merged firm and Continental Can. Moreover, the Runcorn plant had a large over-capacity, which when divested to a new entrant, would make retaliation less credible and co-ordination less sustainable between the duopolists. Finally a "new entrant" with such capacity would be a credible competitor in the short-run as well as in the long run.

The Commission also stated that the acquirer of the divested assets would need to acquire some critical mass enabling it both to compete and to pay back its investment. The Commission considered that the available overcapacity in the divested assets, particularly Runcorn, along with the additional customer contracts were sufficient to help the new entrant to establish itself in the market.

As a result of the divestitures the market of Northern Europe would comprise four players: the merged entity would have [25%-35%] market share, CCE [35%-45%] Carnaud-Metalbox [15%-20%] and the purchaser of the divested assets [5%-15%].

b. The divestiture of La Ciotat plant was considered sufficient to restore pre-merger competition in the Southern European market because this was the only overlapping business in that area.

[259] Paras. 32-35.

The culmination of the divestiture process in *Rexam/ANC* can be seen in the Commission's decision in *Schmalbach-Lubeca/Rexam*, which was published on September 2001, 14 months after the publication of *Rexam/ANC* decision. With the latter decision the Commission approved the acquisition of La Ciotat and Runcorn plants by Schmalbach-Lubeca, the new name for CCE. The thesis will not examine further the divestiture of La Ciotat, which refers to Southern Europe, but will focus on the sale of Runcorn, in Northern Europe.

The Commission's decision to approve the sale of Runcorn to Schmalbach-Lubeca was justified on the basis that the sale would not result in a dominant position in Northern Europe:

"In Northern Europe, the operation raises no concerns as to the creation of a dominant position by the merged firm. The addition of a market share following the proposed concentration is relatively low, that is [0-5%]. The combined market position of the merged entity [35-45%] is likely to be constrained by the existence of vigorous competitors such as Rexam and Carnaud-Metalbox, which can be viewed as a competitive alternative to customers in case of a unilateral price increase. These competitors are credible, as can be seen from their sales market shares ([25-35%] and [15-25%] respectively) and their spare capacity levels [...]. In addition to Rexam and Carnaud-Metalbox, the pricing behaviour of the merged firm may be constrained by the presence of two smaller competitors, namely Gelsenkirchen ([0-10%]) and Canpack ([0-5%])".

The decision requires closer examination because the Commission in *Rexam/ANC* had promised to sell the Northern Europe plants altogether to a single independent buyer, as a means to break the duopoly and this promise was not kept since Runcorn was finally sold by Rexam to the other duopolist. The Commission's decision to approve the sale raises therefore questions about its effectiveness. These issues will be discussed below and the discussion will cover also the possible remedial action under the other two scenarios examined above for the *Rexam/ANC* merger: the creation of tacit collusion by three firms and of a non-collusive oligopoly.

7.12.1 Remedies for restoring effective competition in oligopolies: some observations

As mentioned in other chapters of the thesis the main goal of remedies in EC merger control is to address all the competitive concerns identified by the

Commission in its competitive assessment of the merger thus restoring effective competition in the common market on a permanent basis.

However, while in the case of unilateral effects the restoration of competition appears relatively easy since the competition problem refers to the behaviour only of the merged entity, the same is not true for collective dominance where the competition problem is more complex and concerns not only the merged entity but also other firms in the market. In addition, in oligopolistic markets competition may not be effective even before the merger, and in such cases the Commission should take measures at least to ensure that the merger will not deteriorate the situation.

The Commission's view on the issue, as expressed in the well-known *Airtours* case is as follows:

"...appropriate remedies in oligopoly cases can amount, in effect, to attempting to create (or recreate) a competing business capable of exerting sufficient competitive pressure. As such, it is particularly important to ensure that the divested assets, together with those (if any) of their ultimate acquirer(s), will prove sufficient to maintain competition at an acceptable level, given also that the market share and strength of the merged entity will also have increased as a result of the merger"[260].

From the above it could be inferred that the preferred remedy in oligopoly cases is the creation through divestiture of the merged entity's assets of a new viable competitor[261], which could be either one of the existing players or a newcomer and which would ensure the maintenance of acceptable level of competition in the market post-merger.

However the difficulties for restoring competition in oligopolies are many as can be seen from the indicative examples below:

a. In very concentrated oligopolistic markets, there may be no suitable buyers for the divested assets if all possible buyers would themselves be members to the oligopoly[262];

b. Even if a suitable buyer is found, the divestiture may prove ineffective if this buyer finds it more profitable to "join the club" and coordinate with the existing firms[263]. A move towards coordination could be also facilitated by the contacts that will

[260] See XXIXth Annual Report on Competition Policy, 1999, at para.175.

[261] This was confirmed by Commissioner Monti who has stated that the preferred remedy is the divestiture of viable stand-alone business (see Mario Monti "The Commission Notice on Merger Remedies-One year After" Speech in CERNA, Paris, January 18, 2002). The Commission Notice on Remedies (OJ 2001 C68/3) in para.13 expressly states that divestiture is the most effective way to restore competition apart from prohibition.

[262] See also C. Rakovsky "Remedies: Finding the Right Cure-The Commission's Evolving Practice" paper presented to the EC Merger Control 10th Anniversary Conference Brussels 14-15 September 2000.

[263] See also Lindsay *op.cit.*172, at 9.48.

inevitably develop between the buyer and the merged entity during the divestiture process[264];

c. If the divestiture of assets to a suitable buyer is considered as appropriate to make the latter an effective competitor by offering him certain competitive advantages, the question may arise why these assets did not make the party selling them an effective enough competitor to break the joint dominance[265];

d. If the divestiture assets were going to award any significant competitive advantage to their acquirer the question arising is why the merged entity would agree with their sale instead of the sale of less efficient assets[266];

e. The divestiture from one member of the oligopoly to the other may do nothing to break the oligopoly if the reasons that created the latter are not firm-specific but concern the broader market and thus will continue to exist post-merger[267];

f. If the divestiture assets are sold to a firm, which has no previous presence in the market, as a means to create a new viable competitor the problem may concern the competitive disadvantages that this firm may have due to the lack of experience in the business. In the case of a tight oligopoly where entry could face aggressive behaviour by the incumbent firms, the entrant could have additional problems if he was not a large firm. In that case the new entrant may find it more profitable to cooperate with the oligopolists[268].

The above examples reveal aspects of the problem in restoring competition in oligopolistic markets. Even if the use, apart from divestiture, of behavioural remedies also has been suggested for such cases[269], a basic issue, which seems to remain unsolved even after the imposition of such remedies, is what will happen when coordination is also facilitated by the general market conditions and not only by the merger itself. For instance, the presence of similarity in cost structures or negative growth trend in the market will inevitably reinforce the interdependence between all firms. Competition authorities in such cases will not be able to do much to solve the problem, which refers to the market as a whole.

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[264] See also Europe-Economics *op.cit.*123, at 110.

[265] See also John Temple Lang "Oligopolies and Joint Dominance in Community Antitrust Law" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, Juris Publishing, 2001, 269, at 348.

[266] See also *ibid.*

[267] See also Europe Economics *op.cit.*123, at 109.

[268] See also *ibid.* at 109-110.

[269] Behavioural remedies could include, for instance, the imposition of price caps (see also *ibid.* at 111).

In any case, the selection of the appropriate remedy in such cases depends on the specific market conditions and therefore the application of general rules is of limited importance. However, in the absence of remedies adequate to eliminate the identified competitive concerns competition authorities will have to prohibit the merger[270]. It is also necessary to stress that the restoration of effective competition in the market does not culminate with the approval of the remedies but with the implementation of the decision because if the decision is not implemented properly effective competition will not be restored[271].

7.12.2 Remedies in the beverage can market

The discussion on the remedies is divided into two parts: the first part concerns the analysis of the Commission's decision in *Rexam/ANC* and the second with the analysis of the *Schmalbach-Lubeca/Rexam* decision.

7.12.2.1 Remedies in *Rexam/ANC* merger

The decision of the Commission to approve the sale of two plants of the merged entity in Northern Europe to "a new entrant" was from a first sight satisfactory: the divestiture decision would eliminate the symmetry between the duopolists created as a result of the merger, while the creation of a fourth competitor in the market through the acquisition of the divested assets by the new entrant would also prevent the increase of coordination in the market by maintaining the number of competitors that existed prior to the merger.

In addition, the two plants in Runcorn, UK, and Gelsenkirchen, Germany, were covering a combined market share of 5%-15%, while the UK plant had large overcapacity (35%-45% of unutilised capacity), which would enable the acquirer of these assets to become a credible long-term competitor. The divested assets also constituted a critical mass enabling the acquirer both to compete and pay back its investment.

[270] See para.31 of the Notice on Remedies.
[271] As Commissioner Monti *op.cit.*261 has clearly stated: "The discussion and acceptance of remedies by the Commission is...only part of the story. An equally important role of the Commission is to closely examine the implementation of remedies previously accepted. Indeed, the competition concerns raised by an operation will only be eliminated if the remedies accepted are fully and properly implemented".

However, taking into account those mentioned above in the analysis of the competitive conditions in the market of beverage cans as well as in the references to the problems associated with the selection of appropriate remedies in oligopolies, the selection of a suitable buyer could be difficult.

The first problem would relate to the fact that, as also the Commission implicitly recognised in its analysis, the market of beverage cans apart from the symmetry between the duopolists had general features facilitating coordination, such as product homogeneity, similar cost structures and prices, and flat growth trend. These features would remain in the market post-merger because they were not related to the merger and, therefore, any new entrant would have to deal with them. Would this entrant prefer to compete aggressively or would he choose to cooperate with its competitors to more effectively deal with these negative market features? Thus, the symmetry between the duopolists was not the only issue, which the Commission had to solve when selecting a suitable buyer.

The second problem concerned the fact that the divested assets might not be sufficiently attractive for a new entrant even if the Commission claimed for the opposite. The fact that in the European beverage can market there had been no new entry for many years could indicate difficulties for finding a suitable buyer for the divested assets. The problem was not theoretical but rather practical, since the only new entry that occurred in the European beverage can market since the early 1990s was in 1996 through the acquisition of Carnaud-Metalbox by Crown Cork. Also, in 2002 two years after the merger of *Rexam/ANC* the US firm Ball entered into the European market through the acquisition of Schmalbach-Lubeca. These methods of entry, namely through the acquisition of existing players, meant that either there was no space for an additional player in the beverage can market or that the only viable entry in that market could become through the establishment of control over significant market share potentially higher than that of the divested assets. Carnaud-Metalbox and Schmalbach-Lubeca, which were targeted for acquisition by the new entrants, had a market share in Europe of around 20% and more than 30% respectively.

A third problem, it is submitted, was the solution concerning the non-collusive oligopoly. The analysis above showed that the merger of *Rexam/ANC* would lead to a highly concentrated market which, taking into account also the other market features, would allow for unilateral price increases in the beverage can market. The creation of a new competitor through the sale of divested assets would restore the number of competitors to the pre-merger levels thus preventing significant increase in the concentration levels. On the other hand, the solution, to be effective, should also be sufficient qualitatively. For instance, given that the divested assets did not provide any cost or other advantage to the merged entity so as not to raise its prices, why would the new acquirer use these assets to adopt a policy of non-increase in prices?

In any case, the identity of the buyer was crucial for solution to the above problems and therefore it had to be seen who that buyer might be.

7.12.2.2 The decision in *Schmalbach-Lubeca/Rexam*

The Commission's solution to these problems came through its decision in *Schmalbach-Lubeca/Rexam* which approved the sale of Runcorn and La Ciotat plants to Schmalbach-Lubeca, one of the duopolists. The decision made no specific reference to the conditions set in *Rexam/ANC* for the selection of a suitable buyer for the divested assets but only said that the acquisition of the two plants by Schmalbach-Lubeca would not give rise to any dominant position.

Regarding Northern Europe, the Commission considered[272] that the acquisition of Runcorn by Schmalbach-Lubeca, which would give the firm a market share of 35%-45% in that market, would not be sufficient to allow for unilateral price increases because the addition of a market share of 0-5% by Runcorn was relatively low, while the merged entity would be constrained by firms such as Rexam and Carnaud-Metalbox, which were credible alternatives due to the sufficient market share that each of the two firms possessed in the market, and also by the presence of two smaller competitors, Gelsenkirchen and Canpack, which would offer additional constraints.

Compared with the Commission's analysis in *Rexam/ANC* the decision in *Schmalbach-Lubeca/Rexam* appears inconsistent. In particular, it should be recalled that in the former case the Commission had considered Carnaud-Metalbox not a source of competition due to its capacity constraints[273]. The Commission had also considered Canpack as a firm facing capacity limitation, lacking accreditation and selling products of random quality[274]. In respect of Gelsenkirchen, the Commission's

[272] See in para.17 of the decision.
[273] See in para.24 of the decision in *Rexam/ANC*
[274] *Ibid.* in para.28.

decision that approved its divestiture in *Rexam/ANC* had not referred to this plant as having significant overcapacity, but instead had stated that it was Runcorn plant important due to its overcapacity[275]. Thus, Gelsenkirchen was less important than Runcorn and given that the former did not have significant overcapacity it is not very clear how Gelsenkirchen would constrain Schmalbach-Lubeca.

A second inconsistency in *Schmalbach-Lubeca/Rexam* decision was that Schmalbach-Lubeca was not the new entrant that the Commission had promised to create for restoring competition in the beverage can market after the *Rexam/ANC* merger. The Commission had also promised to sell Runcorn and Gelsenkirchen to a single buyer but did not keep its promise since it sold the two plants separately. The sale of the two plants altogether had been considered in *Rexam/ANC* decision as necessary for creating a "critical mass" that would enable the acquirer to effectively compete against the duopolists[276].

In terms of the effect on competition, the Commission's decision in *Schmalbach-Lubeca/Rexam*, however, could not be deemed inconsistent with its previous decision in *Rexam/ANC*. Given that the Commission in the latter case had considered as the main reason for the establishment of duopoly the symmetry in market shares and overapacity between Rexam/ANC and Schmalbach-Lubeca (CCE) this symmetry was completely broken after the second decision and therefore no competitive problem would remain in that market on such grounds.

Also, in terms of non-collusive oligopoly such a risk would apparently also be reduced since in the market there would now be five players (including Canpack).

However, if one accepts that the source of collusion in the beverage can market was not only the symmetrical market shares and overcapacities between Rexam/ANC and CCE but also other market features, then the Commission's restoration of competition was unsuccessful. This was so because no independent competitor to break the oligopoly was finally created -Gelsenkirchen and Canpack were unable to act independently to the extent of constraining the oligopolists- while the sale of assets from one oligopolist to the other could increase rather than decrease the risk of coordination because the exchange of assets associated with the development of the

[275] *Ibid.* in para.35.
[276] *Ibid.*

necessary contacts between the two firms on the issue could help these firms to improve their cooperation[277].

In respect of unilateral price increases, given that at least three of the five firms (Carnaud-Metablox, Gelsenkirchen and Canpack) had limited capabilities to compete against the two leaders, these firms would have more interest in following the leaders by raising prices than in keeping prices low.

However, and given that the Commission in *Rexam/ANC* had clearly indicated that it would seek the establishment of a new player in Northern Europe in response to the merger, one could only speculate that such a firm was not possible to be found and therefore the Commission was "forced" to accept a solution that was not optimal but at least restored competition in terms of market shares.

7.12.3 Conclusion on the remedies

The merger of *Rexam/ANC* is an interesting illustration of the issues of selection and implementation of remedies in oligopolies. The analysis above shows that the restoration of effective competition in oligopolies faces difficulties particularly at the stage of its implementation where the creation of a viable competitor, which will replace the firm lost due to the merger, is not always easy. The problem is not related only to the selection of a suitable buyer for the divested assets, but also to ensuring that this buyer afterwards will not consider it as more profitable to join the oligopoly instead of competing against it. The issue, however, should not be seen isolated from the oligopoly problem as a whole, which constitutes one of the more difficult issues in antitrust and has no simple solutions.

The fact that situations of tacit collusion are particularly difficult to deal with even *ex-post*, has given rise to views that there should be a tighter *ex ante* control of mergers that are likely to result in such a situation[278]. In this context, it has been argued[279] that remedies should not seek only to restore the *status quo ante* but also to go further by seeking to improve the *status quo ante* when issues of tacit collusion arise.

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[277] On the issue see also Massimo Motta, Michele Polo and Helder Vasconcelos "Merger Remedies in the European Union: An Overview" in -Leveque Francois and Shelanski Howard (Ed.), *Merger Remedies in American and European Union Competition Law*, Edward Elgar (Publ.), 2003, 106, 113.
[278] See Europe Economics *op.cit.*123, at 109.
[279] *Ibid.*

The thesis is of the opinion that such solutions, by seeking to cure future problems, which due to the always-unpredictable market developments are difficult to fully determine *ex ante*, have increased risk of failure and therefore little utility. For instance, even if competition authorities take all measures to open an oligopolistic market to new competitors through facilitating entry, it does not necessarily follow from that that the new entrants, once entering, will not end up cooperating with the oligopolists. Conversely, in a market where a collusive oligopoly appears very likely to arise in the future, one could not exclude unpredictable market developments to finally prevent this risk from materialising[280]. In such a case any pre-emptive measures against collusion would be unnecessary.

For these reasons it is submitted that the focus of competition authorities should be only on measures necessary to remedy the specific competitive problem caused by the merger and nothing more than that.

The analysis of *Rexam/ANC* and *Schmalbach-Lubeca/Rexam* shows also how closely related is the selection of the appropriate remedies and the competitive assessment of the merger. Any decision on the remedies seeks to cure the specific competitive problem identified in the competitive assessment and therefore particular weight should be placed on the proper identification of the competitive problem.

In respect of EC merger control, the adoption of the new market test of the Merger Regulation by expressly including non-collusive oligopolies in its scope helps to the more effective identification of the competitive problems in oligopolistic markets and in this sense also helps to improve the performance of competition authorities concerning remedies.

[280] For instance, an unexpected technological breakthrough in one firm, which would help that firm to acquire cost advantage against the other oligopolies, could be a good reason that firm to deviate thus breaking the oligopoly.

Chapter 8

Summary, Conclusions and Proposals

This thesis has reviewed certain important competitive issues arising out from the application of EC merger control in order to assess the effectiveness of the framework of the Merger Regulation and the Commission's practices.

The objectives of the thesis as set out in its introduction were:

a. To present certain difficult competitive issues, which, when arising in merger control, could result in failures in the competitive assessment;

b. To analyse and assess the Commission's approach to these issues as a means to assess the effectiveness of the framework of the Merger Regulation and the Commission's performance;

c. To discuss theories or methods of analysis potentially more effective than those employed by the Commission;

d. To analyse and assess the new substantive test of the Merger Regulation;

The ultimate aim of the thesis was to analyse and assess the framework of the ECMR and the Commission's practice and to put forward proposals for improving its effectiveness.

To achieve its objectives the thesis has used three Commission decisions as tools for studying the application of merger control by the Commission and the framework. The three mergers were selected because they would facilitate the discussion of the relevant competitive issues. In particular, the three cases involved coordinated effects and situations of single-firm dominance. They also allowed for a discussion on the new Commission's doctrine of non-collusive oligopolies, which was incorporated into the scope of the Merger Regulation in the latest reforms.

Other significant competitive issues examined include vertical aspects of mergers, merger remedies, issues of market definition, such as product differentiation and the treatment of captive production, and issues of strategic firm behaviour.

The analysis and assessment of the frameworks and the competitive issues were based on the idea of the adoption of a flexible legal framework of merger control in the EU and for a flexible application of that framework.

In particular, in the introduction of the thesis, it was proposed that the application of merger control is a dynamic process, which to be effective requires a) a flexible but crystal-clear, in terms of scope and proceedings, legal framework that enables competition authorities to effectively deal with all the competitive issues arising from mergers in the complex global economic environment; and b) a flexible application of the framework by competition authorities in a manner that allows for maximum protection of the interests of the consumers in the Community without harming corporate reorganisation.

The thesis has sought though the analysis of the examined cases in its chapters to clarify certain issues about the proposed flexibility and to prove why additional flexibility in the framework and its application would improve the effectiveness of the current EC merger control system. The examined issues and the conclusions reached are as follows:

8.1 Procedural issues of EC merger control

Although the focus of the thesis is on substantive issues reference to the procedure was deemed necessary because procedure is closely connected to the competitive assessment. Procedural issues were presented in chapter 2.

The thesis has presented the basic procedural framework of EC merger control and discussed the recent developments in that area following the abandonment from the Merger Regulation of the old notification deadlines and the adoption of new more flexible deadlines for Phase-I and II investigations.

The thesis considered that the additional flexibility offered by the new rules will improve the effectiveness of EC merger control but considered that even further flexibility may be required for Phase II. In particular, it was submitted that the adoption of the new market test of the ECMR, which has broader scope than the old dominance test, the ever increasing size of the examined concentration and the use of more sophisticated methods of analysis involving econometrics in merger analysis may render even the new deadlines for Phase II ineffective.

To solve this problem it was proposed the adoption through incorporation of a special provision into the ECMR, of a further extension of Phase II beyond the existing deadlines and extensions. In particular, under the proposal, the Commission, at the request or with the agreement of the parties and where difficulties arise for completing the market investigation within the existing deadlines and extensions, would be given the power to further extend Phase II for a period agreed between the two sides. Such a solution would help to produce more effective competitive assessments in Phase II particularly in these cases where disagreements between the parties and the Commission or the increased complexity of the investigation could not be effectively dealt with within the existing deadlines and extensions. This solution would help to reduce complaints about the Commission's investigations and decisions by the parties and would reduce the need for the latter to appeal to the ECJ, which causes financial costs and time loss to them. Thus, under this proposed solution, the merger control procedures in the EU would retain their current effective system of fixed deadlines, while for those few cases where there is need for more time in the investigation, the law would allow for extensions. In such a case, Phase II would become in effect open-ended as in the US.

Lastly, the thesis has examined the role of judicial review in EC merger control. The thesis considered that the Court's involvement in merger cases, even if relatively rare, has been positive by helping to settle legal issues and checking the exercise of the Commission's decision-making discretion under the ECMR. However, regarding assessments of economic nature, it was submitted that while the Court has the power to check and should check the Commission's analyses and assessments of economic evidence in merger cases, it should nevertheless do it carefully so as not to undermine the Commission's authority under the ECMR. Economic assessments are in the core of the competitive assessments of mergers and are used to determine the competitive effects. The task is exercised by the Commission in all cases under the ECMR and entails difficult analysis of complex competitive conditions. The Court by checking the Commission's economic assessments necessarily reassesses the cases and finally either confirms or rejects the Commission's decisions. However, even if such reassessments fall within the Court's authority it is submitted that that they should be made relatively rarely and only when it is absolutely necessary and not in a way that challenges the Commission's authority under the ECMR. This must be so because the difficult nature of the competitive assessments, which involves the use of economics and econometrics, as well as the potentially insufficient resources available to the Court for carrying out this task do not safeguard that the Court's assessments will be more reliable than those of the Commission, which has more experienced and specialised staff and of course more available resources. On the other hand, the frequent adoption of different decisions by the Court and the Commission could undermine the Commission's ability effectively to review mergers thus creating confusion and legal uncertainty to firms. For these reasons, it was submitted that the Courts interference with economic assessments should take place only where the Commission's errors are manifest.

8.2 Substantive issues of EC merger control

Substantive issues have been examined in detail. First, in chapter 3, the thesis presented the Commission's basic practice in the three basic stages of the competitive assessment, that is, market definition, analysis of the competitive effects and remedies. Then in the chapters to follow the thesis used four case studies on mergers related to aluminium industry in order to analyse and assess the Commission's practice with respect to the specific competitive issues targeted by the thesis as well as in order to discuss alternative theories and methodologies for more effectively dealing with these issues.

The results of the analysis are briefly summarised below:

8.2.1 Market definition

Regarding product market the thesis examined the two basic market situations: homogeneous products and differentiated products. The focus was on the Commission's current practices and also on alternative theories and methodologies.

As regards homogeneous products, the treatment of captive sales by integrated firms in market definition was examined. The definition of the SGA market in *Alcoa/Reynolds* was used as an illustrative example of the Commission's policy on the issue. The thesis taking into account the Commission's definition in *Alcoa/Reynolds* and other cases under the ECMR, the corresponding US policies and the views of competition scholars concluded that the Commission's traditional policy of excluding captive sales from the relevant product market, which thus includes only sales in the merchant market is not always illustrative of the competitive constraints. This is so because in certain markets captive sales can be used to affect prices in the merchant market and therefore have to be included in the relevant market. The SGA market, which was examined in chapter 4, was one such market. Also, in this case a situation similar to that of captive sales was examined in the definition of the geographic market where the countries of the former Eastern world and China were excluded from the relevant geographic market of SGA, which thus included only the Western world due to the lack of SGA imports from the East to the West. However, it was shown in the analysis in chapter 4 that while there were no imports of SGA from the East to the West there were large imports to the West of aluminium, which contained SGA as a raw material. The thesis's argument for cases like the above was that the Commission should apply a more flexible approach towards captive sales and decide whether to include them into the relevant market or not taking into account only the conditions of the specific market. The issue concerns the effectiveness of the competitive assessment as a whole because inappropriate market definition in such cases could result in inappropriate decisions on the competitive effects of the merger.

The analysis of the Commission's decision in *Alcoa/Reynolds* showed also that under the dominance test the Commission in certain cases might have used market definition to facilitate the application of that test and not to disclose the competitive constraints. In other words it was argued in chapter 4 that the Commission's definitions in certain cases may have been used to define artificially narrow relevant markets that would produce some "high" market share for the parties that would facilitate the establishment of market dominance, which requires high market shares. However, such a policy if existed could result in inappropriate assessment of the merging firms' market power. From *Alcoa/Reynolds* such a conclusion was reached because the Commission in the definition of the product market applied different criteria in the treatment of captive SGA sales and the long-term SGA contracts. These contracts were included in the product market even if the SGA production sold under these products would never be made available for sale in the merchant market. However, the lack of availability to buyers in the merchant market had been the reason for the exclusion of captive sales from the product market. Thus, the Commission seemed to apply different criteria for the definition even if it had to deal with the same market and it was argued in chapter 4 that this move might have been caused by the Commission's intention to define a narrow market that would facilitate the application of the dominance test, since the inclusion of long-term contracts would have produced lower market shares for the merging parties.

As regards differentiated products, which were examined in chapter 7, the thesis used the Commission's definition about beverage cans in *Rexam/ANC* to discuss certain problems in market definition when differentiated products are involved.

Difficult issue with such products concerns the treatment of imperfect substitutes. The thesis examined the effectiveness of the SSNIP test, which is broadly used by competition authorities for defining markets in such cases and merger simulation, which is proposed by some economists as an alternative to conventional market definition in differentiated products. The thesis's conclusion was that while SSNIP is generally an effective tool for defining markets, in cases involving differentiated products this test alone may not be always sufficient to capture all the competitive constraints and therefore examination also of other methods and evidence will be required. In other words, the thesis argued for a qualitative approach to market definition. As regards simulation, it was argued that while this method offers useful evidence for identifying the competitive effects of the merger is not yet capable of replacing the traditional market definition task.

In respect of geographic market definition, its relationship with economic globalisation was discussed in chapter 4. The thesis presented some basic competitive features of global markets and argued that since markets become increasingly global the Commission should take this into account when defining markets and also in the competitive assessments. Issues of globalisation affect amongst others the analysis of entry, while they require analysis of strategic behaviour, which goes deeper in the competitive process compared with structural analysis that relies on market shares and concentration.

Lastly, about the Commission's practice when defining geographic markets under the ECMR the thesis noted the rarer use of quantitative evidence compared with product market definitions, which reduce the credibility of the Commission's decisions.

8.2.2 Competitive assessment

The market test of the ECMR has been central in the thesis. In chapter 5 it was examined whether the adoption of the US SLC test in the EU would help to improve the effectiveness of EC merger control. Following examination of the history of the application of the EU and the US tests it was concluded in chapter 5 that there was no need for adopting the US test in the EU. The thesis's argument was that due to the existence of different public policy objectives and economic interests in the two sovereign jurisdictions it was more appropriate to preserve the current system of different market tests in the EU and the US, which safeguard more effective application of sovereign policies. However, as the history of the merger control systems in the two jurisdictions showed, the existence of different market tests did not prevent competition authorities in the EU and the US from converging on important competitive issues related to merger control and from developing fruitful cooperation.

Further, the thesis in the four case studies about the aluminium markets (chapters 4-7) carried out an in-depth analysis of the application of the market test of the ECMR, which covered situations of single and collective dominance as well as vertical aspects of mergers and the new Commission's doctrine on non-collusive oligopolies. The analysis sought to explore the boundaries and limitations of the substantive test of the ECMR and in this context extensive comparisons between the EU and the US market tests took place.

In respect of non-collusive oligopolies (unilateral effects), the thesis after examining the developments in EC merger law that led to the incorporation of such oligopolies into the scope of the new market test of the ECMR concluded that since non-collusive oligopolies were based on valid economic theories of competitive harm they had to be included in the scope of the market test of the ECMR otherwise the basic scope of the creation of the latter, the protection of Community consumers from higher prices and lower quality products, would not be fulfilled. In this context it was submitted in chapter 7 that the abandonment in the recent reforms to the ECMR of the dominance test and the adoption of the new SIEC test, was a positive development because in that way it became absolutely clear that situations of non-collusive oligopolies, which under the dominance test were a disputed issue, were within the scope of the market test of the ECMR and that the latter can now deal with all anticompetitive scenarios arising out from mergers.

In respect of coordinated effects, the thesis targeted certain inflexibilities in the Commission's collective dominance doctrine, which concerned mostly the Commission's traditional preference for duopolies. In particular in chapters 4, 5 and 7 situations of broad oligopolies including more than two firms were examined. The conclusion reached was that the collective dominance doctrine as applied under the dominance test had insufficiently narrow scope because is could not effectively deal with oligopolies comprising firms that did not have dominant market shares as is the case with broad oligopolies and this put into doubt whether the competitive assessments in cases involving such oligopolies were fully effective. However, the new SIEC test of the ECMR facilitates the more effective treatment of such oligopolies.

Further, in chapter 4 and 5 situations of mergers giving rise to risks of both unilateral and coordinated effects were examined. Although the two concepts are mutually exclusive, it is nevertheless often difficult, due to the complexity of market conditions, for competition authorities to decide *ex ante* which of the two effects is more likely to occur as a result of the merger. Under the dominance test, in such cases the Commission had to challenge the merger on grounds of either single or collective dominance, meaning that the Commission had to decide, which of the two effects was more likely to occur. Such a decision, however, meant that the Commission by choosing to deal with one of these effects and to ignore the other did not eliminate all the anticompetitive risks arising from these mergers. The new market test of the Merger Regulation by focusing on significant impediment of effective competition appears to allow for establishing both effects in the same merger and thus enables the Commission to eliminate risks of both these effects. This, it was submitted, is a very positive development helping to improve the effectiveness of EC merger control but it remains to be seen how the Commission and the Court will apply the new test.

Further, in chapter 6 the thesis has discussed vertical aspects of mergers and in particular the practical application of the raising-rivals-costs (RRC) theories. Such theories constitute new developments in the area of vertical foreclosure and gradually acquire increasing role in the analysis of vertical mergers. Their basic feature is that they examine the potential of raising prices by raising the costs of rivals without forcing them to exit as was the case with traditional foreclosure. The thesis in chapter 6 by presenting two forms of RRC showed the increased complexity of certain mergers whose assessment requires the use of both horizontal and vertical analysis and that horizontal analysis alone, which is used in most cases under the ECMR, is not always sufficient to identify all the competitive problems. It was also shown that newer economic theories that look deeper in the competitive process than the traditional structural analysis based on market shares could more accurately predict the impact of mergers on competition.

In the context of the presentation of newer theories and methodologies used in merger analysis the thesis has presented and discussed in chapters 5 and 7 the theories on mavericks, namely firms refusing to follow common policies with other firms in the industry thus cancelling the potential of the creation of collusive oligopoly. These theories are tools of dynamic merger analysis, which offer more in-depth analysis to oligopolies and were included into the thesis as a means to discuss methods for improving the effectiveness of EC merger control.

Also, in chapters 4, 5 and 7 the treatment of efficiencies in merger control was discussed. The thesis argument was that despite problems related to the substantiation and quantification of efficiencies the latter had to be formally incorporated in the analysis of mergers. In respect of the Commission's policy on the issue, it was argued that while under the dominance test of the ECMR the treatment of efficiencies was nebulous, the situation has seriously improved after the adoption of the new test of the ECMR and the issue of the Commission guidelines on the assessment of horizontal mergers, which formally incorporate efficiencies in merger analysis in the EU. This new approach is in accordance with a modern and effective merger control system, which requires examining all factors related to the competitive effects of mergers and efficiencies are between these factors[1].

Lastly, the thesis has carried out extensive analysis of the US framework of merger control and its practical application, which were then compared to the EU framework and the Commission's decision-making process. The US merger-control system has often been suggested to be a good alternative to that of the EU and the thesis used the comparison between the two systems in order to draw conclusions about the effectiveness of EC merger control. The basic conclusion reached from the comparison was that the US framework appears more flexible and in certain areas, such as the treatment of unilateral effects and efficiencies, more systematic than that of the EU.

Another general conclusion about the Commission's analyses and decisions under the ECMR is that the Commission should incorporate into its competitive assessments more sophisticated methods of analysis involving econometrics (e.g. merger simulation, RRCs etc). These methods offer additional evidence enhancing the credibility and effectiveness of the competitive assessments and therefore they should

[1] It is well known that efficiency gains is the main reason behind the decision of firms to merge.

be used more often and when there are available market data. However, the competitive assessments of merger control will always be qualitative tasks and therefore the use of quantitative evidence even if very useful should not in the thesis's view replace qualitative decisions.

8.2.3 Remedies

The thesis has examined also remedies for curing anticompetitive effects of mergers. The remedies examined in the four case studies cover unilateral, coordinated and vertical effects. From the analysis of the Commission's decisions two basic conclusions are drawn:

a. The remedies to be effective require valid competitive assessments meaning that if the latter assessments identify only some and not all the anticompetitive effects of the mergers then the remedies accordingly will cure only some of these effects.

b. The Commission's responsibility does not cease to exist with the approval of the commitments proposed by the parties but with the culmination of the implementation of the relevant decision.

8.3 EC merger control: the issue of flexibility.

From the thesis's analysis and conclusions on the examined competitive issues in the preceding chapters it could be inferred as a general conclusion that maximum protection of consumers by a merger control system can be safeguarded only through the existence of a sufficiently flexible merger control framework capable of effectively dealing with all anticompetitive scenarios arising from mergers in the very complex and constantly changing global economic environment.

The level of flexibility of the EC framework is largely reflected on the market test of the Merger Regulation. The old dominance test with its strict language and narrow scope was not adequately flexible. In particular, the dominance test, by establishing anticompetitive harm only in those mergers giving rise to dominant market positions, did not cover all possible anticompetitive scenarios arising from mergers, while the Commission in order to establish such positions had in certain cases to "manage" the competitive assessments in ways that potentially were not in full accordance with the market conditions. The practical problem arising out of these cases was not so much that anticompetitive mergers finally escaped unharmed the Commission's review, but that the effects of those mergers on competition were potentially not fully identified and, thus, not fully dealt with.

The application of the dominance test was also disrupted by the existence of legal barriers with respect to the exact content of the concept of "dominance". It is submitted that it is a failure that the exact scope of the dominance test, particularly regarding oligopolies, was for all 14 years of its life in the ECMR a contentious issue. This thesis therefore considers that the new market test provides to the ECMR the broad scope and flexibility required and therefore gives the Commission a free hand to establish all possible competitive effects of mergers by applying the most appropriate economic theory in each case without having to worry about whether this theory is covered by the legal test of the ECMR or not as was the case under the dominance test. This, it is submitted, will help to significantly improve the effectiveness of EC merger control, which means better protection for the EU consumers.

However, the adoption of a new more flexible test in the ECMR by itself will be of little significance if the Commission does not apply that test to its limits by systematically incorporating in its analysis a wide range of theories of competitive harm. The Commission has repeatedly stressed that the wording of the new test allows for effectively dealing with all anticompetitive scenarios arising from mergers, but it has still to be seen if these statements will be confirmed by practice. In the analysis of the thesis it was shown that the strict language of the dominance test was a basic reason for the insufficient treatment by the Commission of certain market scenarios while public policy considerations potentially also played a role[2]. By passing the recent reforms in the Merger Regulation, which expanded the scope of application of the latter, the Commission obtained the required political support for a more flexible merger policy for the benefit of consumers and therefore one should expect the Commission to make full use of this advantage. This, it is submitted, means that the Commission in practice should not hesitate to establish not only non-collusive oligopolies but also tacit collusion by more than two firms as well as both unilateral and coordinated effects in the same case where appropriate.

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[2] See in particular, in chapter 5 of the thesis where the histories of the dominance test of the ECMR and the US SLC test were compared.

However, it should be noted that the new test should be used only for achieving more effective competitive assessments and not as a means of punishing mergers not favoured by the Commission for reasons unrelated to competition, such as economic or political ones[3]. In addition, efficiencies claims by the parties should be taken into account seriously by the Commission because the production of efficiencies is the basic reason behind the decisions of firms to merge, while efficiencies can also benefit consumers through, amongst others, lower prices or improved product quality.

Further, apart from the market test and its application, flexibility should be demonstrated also in the selection of the appropriate methodologies for the analysis of mergers. The Commission should make less use of inflexible methods, such as the checklists in the assessment of oligopolies or the heavy reliance on market shares for establishing unilateral market power, and make more often use of dynamic methods, such as those about maverick firms or econometrics techniques, which offer evidence that is more close to the specific market conditions. Competition in the markets is a dynamic and not a static process and the Commission's methodologies should seek to identify and assess all these dynamic factors influencing that process. In that way, merger control becomes more effective and reliable and consumer welfare is better protected. The recent reinforcement of the Commission's staff with more economists and the appointment of a Chief Economist safeguards that the Commission's investigations in the future will become more sophisticated, since dynamic analysis requires use of sophisticated economic tools. However, while some positive trends on the issue have already been noted in recent Commission's decisions under the ECMR, it remains to be seen how far the Commission will go in terms of sophistication with the economic analysis of mergers.

Further, the widening of the scope of merger control as a result of the developments in the law and the Commission's practice may raise fears that the Commission's interference with the competitive process will be increased in the future at the expense of firms. However, the experience from the application of the ECMR thus far shows that the Commission's stance has not been hostile towards mergers and therefore one should not expect this stance to change even under the new rules. One could also potentially argue that the increased intervention will benefit

[3] Such a risk was identified also by S. Voigt and A. Schmidt in a recent their Article. See S.Voigt and A.Schmidt "Switching to Substantial Impediments of Competition can have Substantial Costs-SIC!" *E.C.L.Rev*, 2004, 584, 590.

firms by forcing them, for gaining the approval of the Commission, to examine more carefully the efficiencies and competitive effects of the merger. Such an examination may help to reduce the high rate of failures in mergers recorded by the economic literature.

Another issue about flexibility concerns its relation with legal certainty and predictability. Legal certainty and predictability are particularly useful to firms because they help the latter to predict the likely reaction of the competition authority in their decision to merge[4]. This helps firms to decide *ex ante* whether to initiate administrative proceedings before the Commission for the approval of the merger or abandon the deal since merger prohibitions entail considerable financial and other costs for firms. Sufficient level of legal certainty and predictability can be achieved through the adoption of a crystal-clear framework of merger control, which establishes coherent criteria for the assessment of mergers and also though the application of that framework by the Commission in a predictable way. Flexibility and predictability are opposing concepts, since the more flexible a law and its application are the more unpredictable decisions will occur as a result.

The system of the ECMR in the past by establishing explicit deadlines for the completion of merger review process and a dominance market test that had relatively narrow scope and clear content was generally predictable and therefore beneficial to companies. Therefore, the number of prohibitions was relatively small[5]. However, the adoption in the ECMR of a new test with broader scope and more flexible in application and with more flexible procedural deadlines necessarily raises concerns for less legal certainty and predictability thus potentially harming firms. In addition to the above this thesis proposes maximum use of flexibility by the Commission in the application of the framework, which could leave the impression that the thesis proposes even more harm for firms.

However, in practice the situation may not be that unfavourable for firms for several reasons. First, the issue by the Commission, along with the new more flexible market test, of guidelines for the assessment of horizontal mergers and also the projected issue of similar guidelines for vertical and conglomerate mergers and remedies in the near future will help to clarify the Commission's policies in basic

[4] See also *ibid.*

[5] According to available Commission's statistics the rate of prohibitions were around or below 1% of the examined cases.

areas of the application of the market test thus increasing legal certainty. Of course there will necessarily be some transition period until the content and the application of the new rules become absolutely clear to everyone but it is submitted that this period may not be long given that every year the Commission reviews hundreds of cases, thus having the opportunity in these cases to explain its policies. Moreover, the Commission's past practice in the application of the ECMR generally did not demonstrate sudden and unexpected changes, and therefore it is reasonable to assume that also in the future the Commission will seek a gradual adoption of the new rules in order not to harm the predictability of the proceedings.

Further, the establishment of 'fast-track' procedures in the CFI will help to increase in the future the involvement of the Court in merger control not only for checking the exercise of the Commission's discretion but also for clarifying legal issues about the application of the new market test, thus increasing legal certainty. However, as already mentioned above, the Court's involvement should be careful when checking the Commission's economic assessments, because frequent Court interference with such assessments under certain circumstances could create confusion threatening the credibility of the entire EC merger control system[6]. On the other hand, the Commission should safeguard that its actions respect the rights of defence of the parties and that all measures are taken to ensure that the parties have fair hearings during the proceedings. In such a case, the parties would have fewer reasons to doubt about the Commission's decisions.

Moreover, this thesis proposed the provision to the parties of the right to ask in difficult cases for further extension of Phase II beyond the existing deadlines and extensions through the insertion of a special provision in the ECMR. Such a solution would, it is submitted, work to the benefit of the parties by helping them to exhaust all the means to convince the Commission and avoid a Court appeal, which would cause them additional financial losses, and delays by several more months.

Lastly, the formal incorporation in the new EU merger policy of efficiency defence could be an additional legal tool for firms helping them to deal with the more flexible new test thus increasing their legal certainty.

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[6] There is still an issue whether the new 'fast-track' procedures in CFI are 'fast' enough to safeguard sufficient and above all timely judicial review of the Commission decisions (See Kenneth R. Logan, Ethan E. Litwin and Olivier N. Antoine "Two Comments: Is 'Fast Track' Judicial Review Fast Enough? Are There, Based on the US Experience, Land Mines in the Modernisation Proposal?" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2002, 115; Enrico Adriano Raffaelli "European Union Competition Policy Subsequent to *Airtours* Case" in *International Antitrust Law and Policy*, Fordham Corporate Law Institute, 2002, 129.

In any case it is submitted that the increasingly complex and unpredictable competitive conditions in the markets, due to increasing economic globalisation and the advances in new technologies, inevitably force jurisdictions to adapt in the new reality by becoming more flexible in order to be capable of dealing with all market scenarios resulting from mergers. As the recent reforms to the ECMR show, policy-makers in the EU have well understood this need for more flexibility and have taken measures to that direction. However, given that the markets always run faster than the regulators it may soon become necessary the EC merger control system to become even more flexible in order to catch up with the market developments.

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